OCTOBER
1952

fueloil & oil heat

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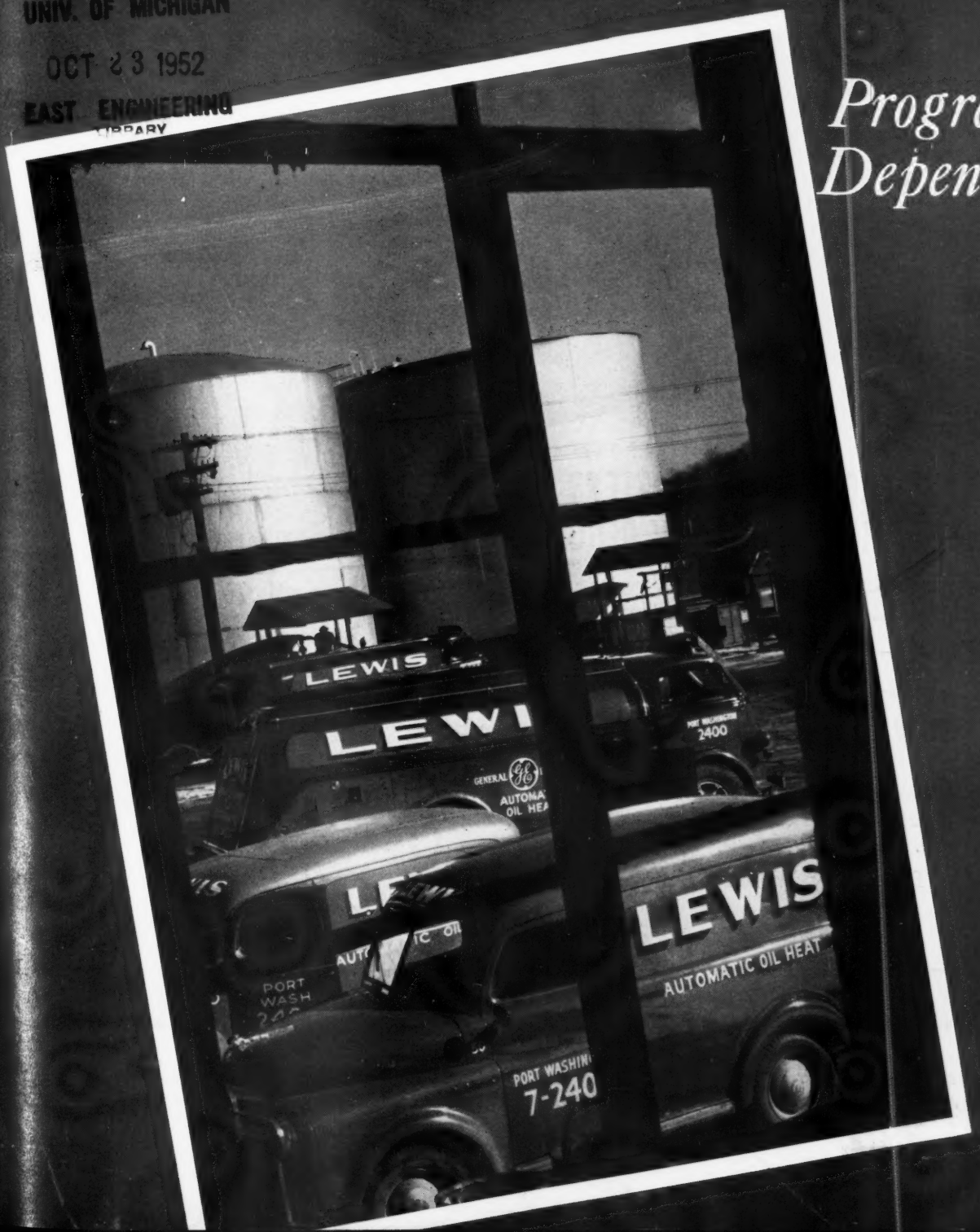

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Dependable

Made to measure * *for*
HEATING OIL DELIVERIES

*

BRODIE *BiRotor* METERS MEET YOUR EXACTING TANK TRUCK REQUIREMENTS

COMPACT—require minimum space. Permit versatile piping arrangement.

HIGH CAPACITY—delivery by pump or gravity.

WEIGHT SAVING—allows maximum pay load.

UNINTERRUPTED SERVICE—requiring less maintenance, less down-time.

From start to finish Brodie BiRotor Meters are "*made to measure*" in every detail of design, construction and installed performance.

Investigate fully today. Write for complete information.

BRODIE ALL-STEEL BiRotor TRUE-ROTARY METERS

RALPH N. BRODIE CO., INC. • ALVARADO & WEST 137th AVE., SAN LEANDRO, CALIFORNIA, U. S. A.

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OCTOBER fueloil & oilheat 1952

VOLUME 11 NUMBER 10

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Among other things . . .

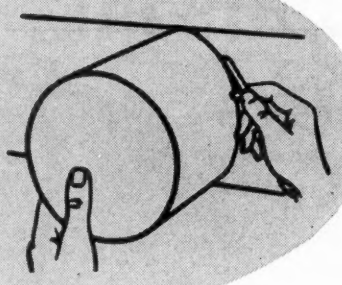
Winners of the 1952 Contest are announced in this issue on page 51. Following pages reproduce the first prize entries and honorable mentions for four of the ten questions that contestants were asked to answer. The balance will appear in the November and December issues.

Kraemer follows with a logical, and best of all, workable method for fueloil dealers to improve the workings of their credit departments. And, on page 58, you'll find the final article in the present series analyzing the prospects for home cooling sales by oilheating dealers.

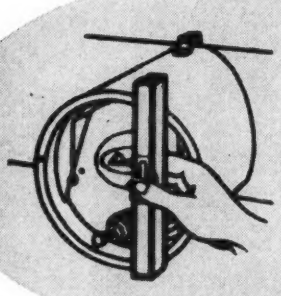
Burner cycling has been a subject of much study, so it's timely to report on the application of a condensate measuring apparatus successfully used in the Shell Laboratory to determine the over-all efficiency of boiler-burner units. Description of the apparatus developed and its application begins on page 68.

What could

Hold collar against smoke pipe so that the open face is vertical and mark outline on pipe. Snip hole in pipe ½" smaller than mark; snip slits ½" deep around hole.



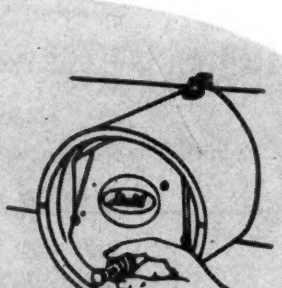
be simpler or



Strap collar to pipe; bend ½" slits into collar. Fasten control into collar and true control up and down and sideways by checking with spirit level.

easier or wiser

Factory set to maintain an .06" draft until an instrument reading can be made. Because Field accuracy permits a hairline setting for maximum economy such an instrument setting should be made.



than installing a *field* draft control?

See the new Field Draft Control for Gas-fired Heating Plants at AGA Show Booth No. 238.

FIELD CONTROL DIVISION OF H. D. CONKEY & CO.
MENDOTA, ILLINOIS
AFFILIATES: Conco Building Products, Inc.--Brick, Tile, Stone
Conco Materials Handling Division--Cranes, Hoists

Names in the News

Paul O. Penn has been appointed to the newly created post of executive engineer, Penn Controls, Inc., Goshen, Ind. He has also been appointed a member of the executive committee. Penn will direct the activities of the research engineering program and will be responsible for the company's participation in the creation of the standards and requirements through trade association technical committees. Penn first joined the company in 1930. He previously filled the positions of branch manager, quality control manager and chief engineer.

Frederick Dykes has been appointed sales manager, Dalou Equipment Co., Philadelphia, Pa. The Dalou Co. are distributors for Granco meters and pumps in the Middle Atlantic states, as well as oil equipment jobbers in the same area. Dalou is the jobbing affiliate of Allied Tank Truck Equipment Co.

Lawrence R. Babcock has been appointed sales engineer, Connecticut Heat & Fuel Co., New Haven, Conn. For the past 25 years, Babcock has been associated with the Petroleum Heat and Power Co., now a division of the Iron Fireman Mfg. Co., in charge of engineering, installation and servicing of industrial and commercial oilburning equipment. For the past 15

years, he has been manager of Petro's field engineering division. Babcock is one of the contributors to the recent edition of "The Handbook of Oil Burning," published by the Oil Heat Institute.

Robert L. Holt has been appointed vice-president, Bowser, Inc., Fort Wayne, Ind. Holt has been serving on the company's board of directors for the past two and one-half years, and on the Finance Committee for the past year and one-half.

In addition to his new post, Holt will continue as vice-president and director of the Pacific and Atlantic Shippers' Association, a position he has held for the past 15 years; and a director of the Missouri Edison Co., where he has been a member of the board for six years. Holt rose to the rank of Lieutenant Colonel while in service during World War II. While in service he was the commanding officer of five different ordnance plants.

Michael Fabbri has been appointed by Ohio Electric Mfg. Co., Cleveland, Ohio, as its electric motor sales engineer for its New England territory. Fabbri, formerly sales representative for Torrington Mfg. Co. in Philadelphia and in the New England area, will make his headquarters in Litchfield, Conn.

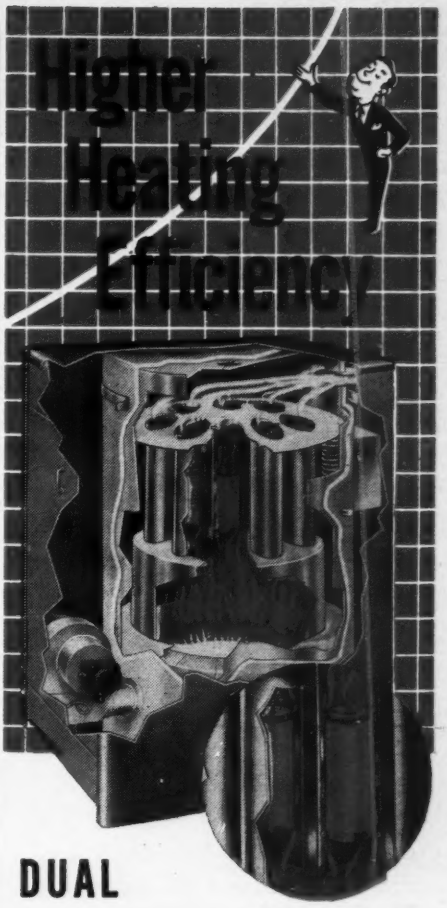
William R. Ray, 73, inventor, industrialist and engineer, died last month at his Los Angeles home. Ray, who, at the time of his death, was chairman of the board, General Controls Co., Glendale, Calif., was responsible for the development of the horizontal rotary oilburner, the dual pump and reservoir and many other improvements in the combustion, automatic controls, heating and connecting fields. A mechanical genius, Ray was credited with the invention of an oil-burner which, for the first time, made it economically possible to use oil for heating and power purposes. His original model is on exhibition at the Smithsonian Institute in Washington, D. C. Ray sold his Ray Oil Burner Co. in 1929 and retired, but in the following year, assisted by his two eldest sons, he formed the General Controls Co., of which he served as chairman of the board until his death. Surviving are his wife, Vida M.; a daughter, Mrs. Margaret Ray Long; five sons, Alvin, John, Richard, William and Charles; a sister, Mrs. Grace McCarthy and 12 grandchildren.

L. A. Dixon, Jr., has been appointed vice-president, Meter and Valve Division, Rockwell Manufacturing Co. Dixon will coordinate the sale and manufacture of gas, water and oil meters, gas pressure regulators and Nordstrom Valves. Dixon, after being graduated from Pennsylvania State College, was commissioned by the U. S. Dept. of Commerce to make a detailed report of German, French and English meter methods and designs. Later he made a similar survey throughout South America. Dixon started in the engineering department of Pittsburgh-Dubois Co. and was made executive vice-president in 1944. When Rockwell acquired that company in 1947 he became general manager. Dixon was later transferred to the parent company, headquartered in Pittsburgh. Prior to his recent promotion, he served as assistant vice-president of the Meter and Valve Division.

National Power Show covers Applications in Industry

THE 20TH National Exposition of Power and Mechanical Engineering will be held in Grand Central Palace, New York, N. Y., December 1 to 6 under the auspices of the American Society of Mechanical Engineers. The event coincides with the ASME annual meeting, and many of the exhibits at the show will exemplify subjects under discussion by the engineers.

The exposition will cover all branches of the field of power. There will be more than 300 exhibitors.



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STAINLESS STEEL INTENSIFIER TUBES

Installation economy for you **because the Dual 8 is easy to install and service: the cabinet is installed after all piping is completed; all controls are on the front of the boiler; the intensifier tubes are readily accessible.** ***Economy for homeowners*** **because they get faster heat with less fuel: the intensifier tubes see to that by cutting chimney heat loss and speeding heat transfer. Then add A. S. M. E. Code Construction and contagious customer satisfaction ... that's a recipe for more sales and more profit.**

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*U. S. PAT. NO. 2,560,275

Acme DUAL 8 BOILER BURNER UNITS

ACME HEATING DIVISION

THE UNITED TOOL and DIE CO.

Editorial Leaks

IT ISN'T OFTEN that a trade association attains the ripe age of fifty years. In the oil industry they are few and far between and with one exception there are none reaching a golden anniversary under the same name that they used at the start. The exception, of course, is the National Petroleum Association which took the bouquets at its September meeting in Atlantic City.

It was an impressive affair. Top oil industry men came to extend congratulations. A beautifully prepared 174 page book recorded the history and aspirations of the first half century.

The National Petroleum Association never attained the size of API, which was started 17 years later, yet there's hardly a man in API who wouldn't say that NPA has more effectively held an intimate personal touch among the individuals in its roster.

Perhaps the group's origin got it started down that road. A number of independent Eastern refiners were being given quite a drubbing by the "Octopus" that then controlled 94% of the total market. It was a getting together for self preservation.

The Association's officers and attorneys became moving spirits in the Washington legislation of the early 1900's that was designed to open up a free market and restrain monopoly. More than any other single influence, NPA facilitated the dissolution decree of 1911 which broke the monopoly.

It is gratifying to observe that among NPA's members today are 11 companies of the "Standard" group, each tremendously enlarged since the days of Judge Landis, and with enlightened management . . . management that came to the NPA boys and asked to join the club.

Fayette Dow, the present chief counsel and mastermind of NPA, has held the job 34 years. No government-industry problem of that whole period has found him absent from the front ranks. He genuinely serves.

And a salute is due associate counsel Don O'Hara for his consistent spark-plugging, and super-arranger and bag-holder Margaret Miller.

❖

COMES NOW one James Mitchel, a geophysicist (Gesundheit) for the Radiac Company, New York, telling us that the oil industry is quite generally employing atomic energy today in wildcatting to discover new oil pools.

The use of radioactivity detection instruments in oil exploration was an unexpected by-product of aerial surveys for uranium made shortly after the last war by several Canadian flyers. However, the Russians used this technique in the early thirties in their cosmic ray studies.

While prospecting for uranium, the Canadians used the "scintillometer" which is several hundred times more sensitive than the Geiger counter. This instrument disclosed that almost invariably around the edges of oil fields is a ring of increased radio-activity.

Thus the general oilbearing region can be spotted quite readily. Then ground forces move in with Geiger counters and finally the prospectors pinpoint the "hot" area with below-ground scanning.

More atomic instruments are now being used to hunt for oil than are used to hunt uranium in spite of the large bonus offered by the government.

❖

FUELOIL & OIL HEAT'S third annual contest is reported in this issue. Some fine material came to light. If you were one of the winners, Congratulations! If you sent in an entry that did not win you can at least have the satisfaction of knowing that you contributed something to a very active discussion of industry problems.

The editor sat through a long weekend with the judges and enjoyed every minute, watching them sweat and sometimes haggle. And all they got out of it was free food and lodging so they're pretty good sports to give up three days' time away from their homes and their golf just to see what industry men (and ladies) are thinking.

Interesting that two of the top prize winners were female, one on credit programs and the other on oilheating public relations. It's clear that as an industry we don't pay enough attention to the ladies.

This brings the thought that the oil industry has recognized them in recent years through the formation of Desk and Derrick clubs in principal cities.

What's wrong with having a bright feminine group that works in the oilheating industry get together. This isn't wives of the brass hats . . . we mean the kind that knows business, Catharine Woodbury for example.

They could call it the P & S Club, meaning Pipe and Slippers, or Puffs and Shudders or various other attributes of professional oilheating. They could get plenty of industry men to talk to their meetings. So we'll see.

❖

OFTEN IN FUELOIL AND oilheating industry circles these days we hear the remark that the main thing wrong with us is that the industry has reached the awkward age. We're too sixty-ish.

Starting in the twenties with a new facility for nicer living that appealed to entrepreneurs, meaning good promoters with ants in their pants, we have thrived. The self starters have fought and won against odds. Now they are 55-60 years old, comfortable in purse and become conservative.

The sons are in there, college bred where the fathers more often were not, and being raised in a period of both filial and governmental security they're conservative too. They won't waste their birthrights, nor even jeopardize them very far. Their sons in turn, if they're true to pattern will bust things wide open and spend.

Maybe it's nice to be so respectable, so comfortable in the big brick house with columns, but where's the real fun?

Yet there are certainly exceptions. We could use many more Tom Scotts, Eddie and Frank Baerenklaus, Sidney Fienbergs and Bill Schierholz, Jr's.

Bob Gray

What's the difference between these two oil heat salesmen?

There is only one difference — **VENTALARM® Signal.**

"But *what a difference*", say oil heat salesmen, "when it comes to getting an interview with a prospect in the face of competition . . . reviving the interest of an old prospect . . . or coming up with that 'special' needed to close the sale."

And what a difference in delivery operations it makes to the fuel oil dealer who offers it as a means of converting customers to carefree "keep full" service.

Why these big differences? Because when you offer VENTALARM Whistling Tank Fill Signal service you can promise clean, convenient fuel oil delivery day or night — oil heat that is truly automatic. The oil man need never enter the home. HE JUST SAFELY FILLS 'TIL THE WHISTLE STOPS.

Model "LA" for new burner installations. Model "LC" for tanks already in use.

Write today for free booklets entitled, "*VENTALARM Signal Deals Aces to an Oil Burner Salesman*" and "*A Sales Plan for Fuel Oil Accounts.*"

SCULLY SIGNAL CO. 76 First Street, Cambridge 41, Mass.

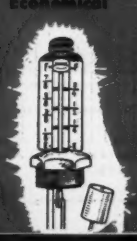
Canadian Licensee: EMPIRE BRASS MFG. CO., LTD., London, Ontario

Contact your REGULAR SUPPLY HOUSE for VENTALARM Signal in a variety of sizes . . . and other Scully Fuel Oil Delivery Aids.

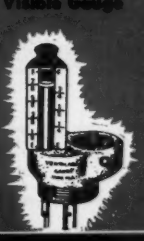
All Scully Products are manufactured under U. S. & Foreign patents or patents pending.

VENTALARM® SIGNAL
Whistling Tank Fill Signal

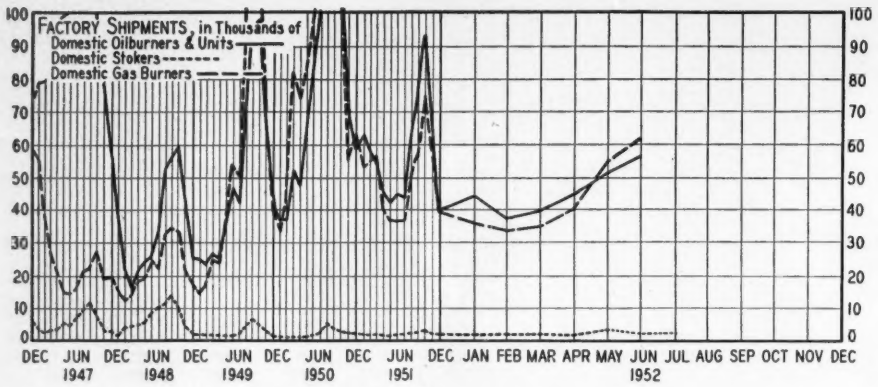
SCULLY® TANK GAUGE
Easy-to-See Gauge Simple, Sturdy, Economical



VENTALARM® TANK GAUGE
Combination Audible Signal and Visible Gauge



FASFILL® CONNECTOR
Portable connection for iron and fill pipes of all sizes.

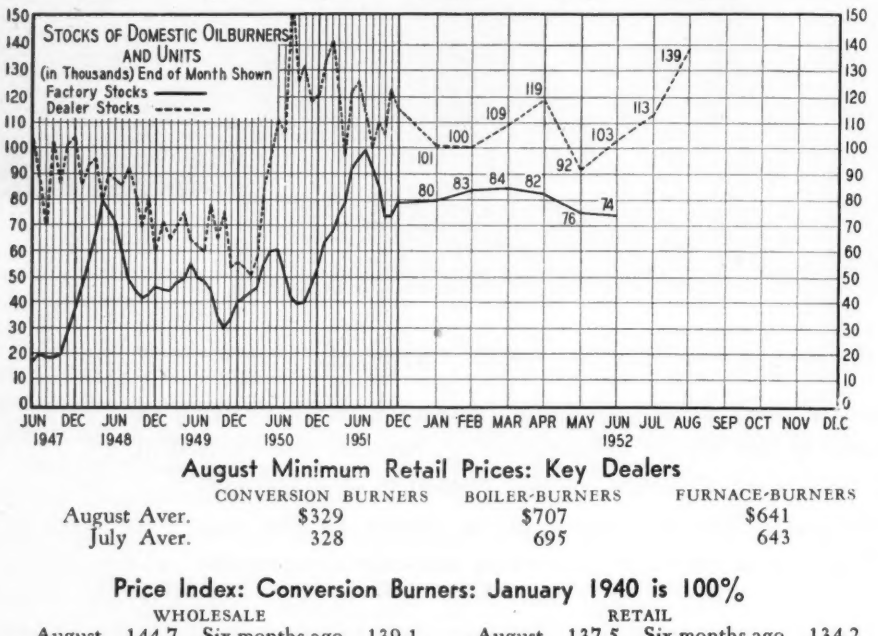

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
Domestic Gas Burners
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1947 1948 1949 1950 1951 1952

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 145 reporting to Census Bureau, FUELOIL & OIL HEAT'S estimates of shipments are:

	JUNE			SIX MONTHS		
	1952	*1951*	*Percent Change*	*1952*	*1951*	*Percent Change*
Conversion	37,935	33,000	+ 14.9	187,347	219,028	— 14.4
Boiler Units	6,378	4,064	+ 56.9	23,237	29,319	— 20.7
Furnace Units	13,542	9,516	+ 42.3	67,145	63,182	+ 6.2
All Domestic	57,855	46,580	+ 24.2	277,729	311,529	— 10.8
Commercial	2,844	3,458	— 17.7	15,097	21,642	— 30.2
Total	60,699	50,038	+ 21.3	292,826	333,171	— 12.1


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
101 100 109 119 92 103 113 139
80 83 84 82 76 74
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1947 1948 1949 1950 1951 1952

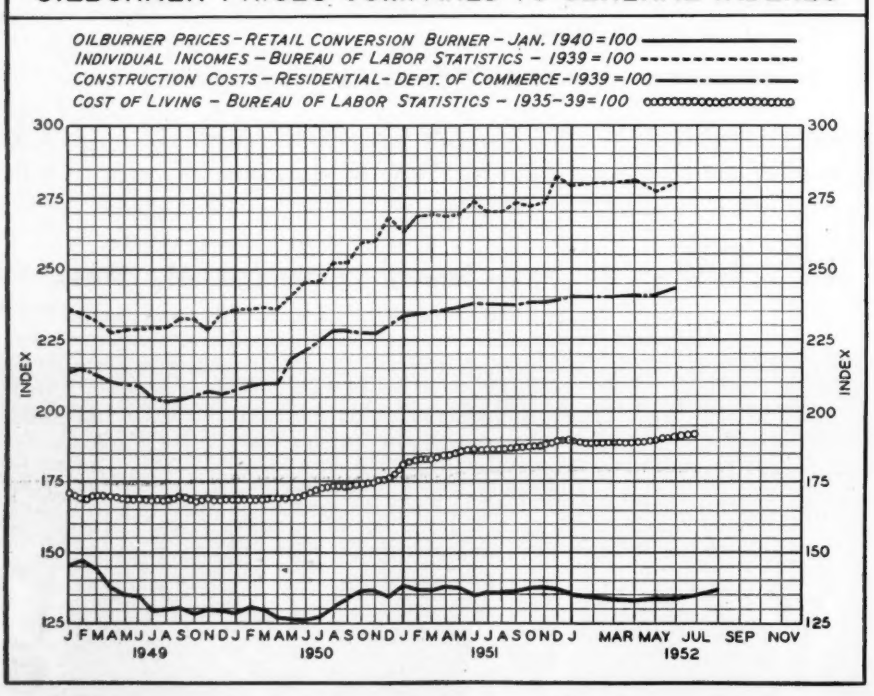
August Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
August Aver.	$329	$707	$641
July Aver.	328	695	643

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL			
August	144.7	Six months ago	139.1	August	137.5	Six months ago	134.2
July	142.1	Year ago	135.7	July	134.7	Year ago	136.3

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES – RETAIL CONVERSION BURNER – JAN. 1940 = 100
INDIVIDUAL INCOMES – BUREAU OF LABOR STATISTICS – 1939 = 100
CONSTRUCTION COSTS – RESIDENTIAL – DEPT. OF COMMERCE – 1939 = 100
COST OF LIVING – BUREAU OF LABOR STATISTICS – 1935–39 = 100
INDEX
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1949 1950 1951 1952

Oilheating Trends

AUGUST INSTALLATIONS of domestic oilburners and units are estimated at 89,632, a bare 2% above last year's 87,782. These installations were divided: New Homes, 17,458; Replacements of old oilburners, 14,150; Conversions from other fuels, 58,024.

Total installations in the first eight months of the year were approximately 398,233, while last year in the same period they were 366,971, indicating a gain this year of 9%.

Our estimates on installations this year are probably a little on the low side, but we will keep them that way until we get more evidence. A check of factory shipments less exports and then adjusted for changes in dealer stocks indicate that we may be running 3 to 5% low.

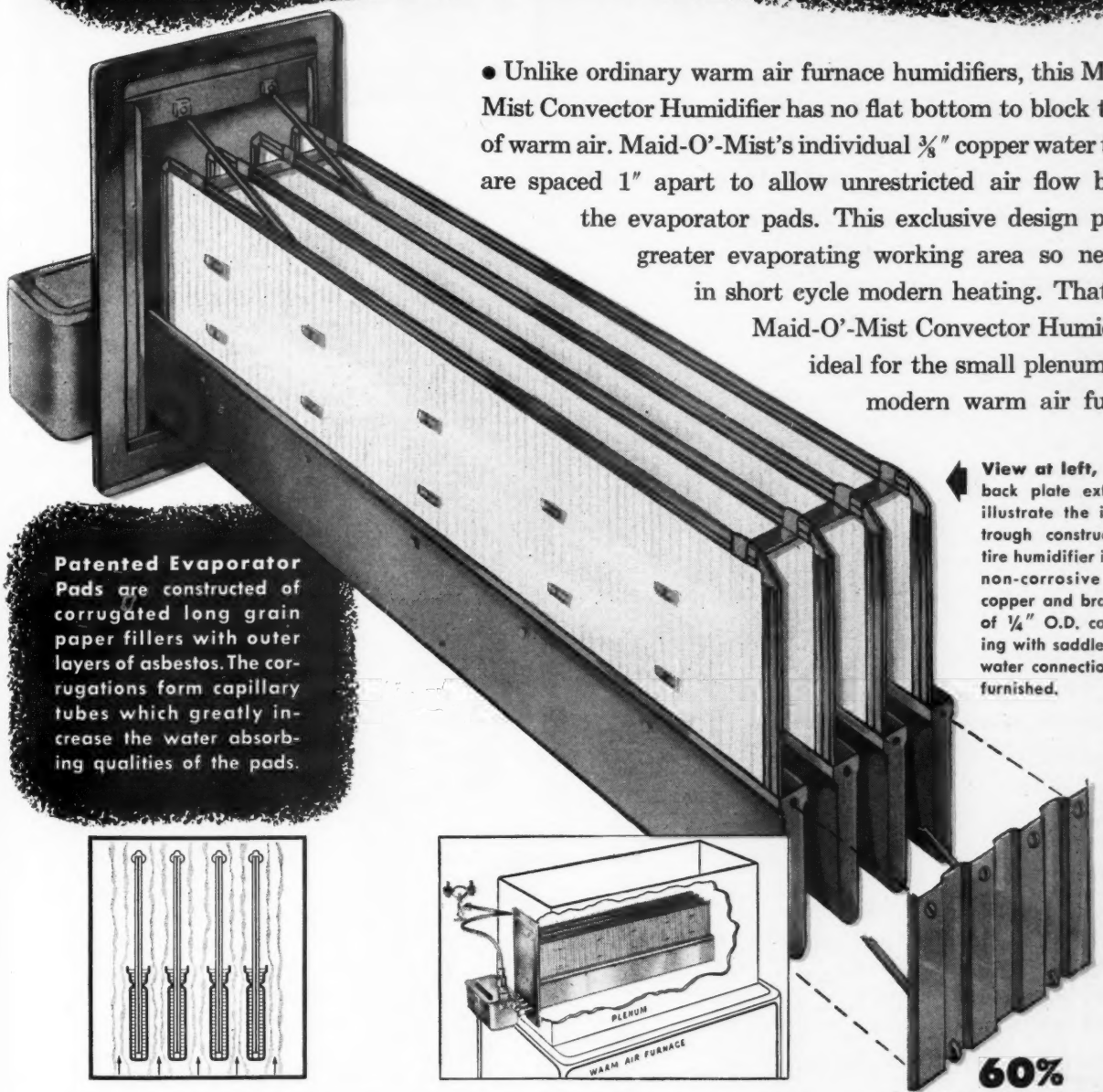
BURNER STOCKS: Domestic oilburners and units in dealer stockrooms on September 1 were approximately 139,109. This compares with 113,299 on August 1 and 98,786 on September 1 last year. The September 1 stocks were divided: Conversion burners, 90,815; Boiler-burner units, 21,684; Furnace-burner units, 26,610.

TANK STOCKS: Fueloil tank stocks in dealer hands on September 1 were approximately 119,808, compared with 124,347 on August 1 and 139,382 on September 1 last year. By sizes the September 1 stocks were divided: 220-275 gallon, 110,116; sizes 550-675 gallon, 6,017; sizes 1,000 gallons or larger, 3,675.

Tank prices during August advanced an average of $2, closing at $38 for the 275-gallon size. By sections of the country the averages were New England, $33; Mid-Atlantic, $39; Midwest, $34; Pacific Northwest, $46. The steel strike no doubt caused the rise, for while dealer stocks remained high there would naturally be some apprehension over supply.

BURNER SALES OUTLOOK: As an index of dealer optimism the reporting group now expects (as of September 1) that their oilburner installations this year will be about 11% above last year. This shows quite a pronounced improvement in their attitude in three months because on

no plenum too small for the CONVECTOR HUMIDIFIER!



• Unlike ordinary warm air furnace humidifiers, this Maid-O'-Mist Convector Humidifier has no flat bottom to block the flow of warm air. Maid-O'-Mist's individual ⅜" copper water troughs are spaced 1" apart to allow unrestricted air flow between the evaporator pads. This exclusive design provides greater evaporating working area so necessary in short cycle modern heating. That's why Maid-O'-Mist Convector Humidifier is ideal for the small plenums of all modern warm air furnaces.

Patented Evaporator Pads are constructed of corrugated long grain paper fillers with outer layers of asbestos. The corrugations form capillary tubes which greatly increase the water absorbing qualities of the pads.

View at left, shows the back plate extended to illustrate the individual trough construction. Entire humidifier is made of non-corrosive metals—copper and brass. 6 feet of ¼" O.D. copper tubing with saddle valve for water connections is also furnished.

Note above how Maid-O'-Mist's exclusive individual trough design allows the air to flow freely up between the evaporator pads. The entire area of each of the large evaporator pads is in direct contact with the warm air flow thus providing 30% more evaporating surface.

This view shows why installation time can be reduced by 50%. You just cut opening in plenum and make water connections. 13 sizes available with evaporation capacities of 1 to 10 gals. of water per day. Get full information on these competitively priced units from your jobber or write for Bulletin 701-B.

60%
less air restriction in plenum

30%
more evaporation area

50%
less installation time

MAID-O'-MIST Inc.
HEATING SPECIALTIES

AUTOMATIC HUMIDIFIERS . . . . . AUTO-VENTS
WATER LINE CONTROLS . HEATING SPECIALTIES

MAID-O'-MIST, Inc.

3217 NORTH PULASKI ROAD . CHICAGO 41, ILL.

June 1 the same group was expecting that their total 1952 installations would be 6% below last year. We have never yet had an instance where these dealer forecasts turned out to be on the high side. Thus, with actual installations for the nine months up 9% there is a good probability the year will wind up stronger than that.

MATERIALS SHORT: The steel strike has had some small effect on completions of oilheating installations. It appears that during August, about 1,200 such jobs were held up because of some item that the dealer could not get right away. This was equivalent to only a little over 1% of actual installations so as an industry we were not hurt badly up to now.

FUELOIL STOCKS: Stocks of distillate fueloil at refineries, terminals and in transit on September 6 East of the Rockies were 93,877,000 barrels. This is 18% above the 79,364,000 barrels on the same date in 1951. For the East Coast alone the September 6 stocks this year were 41,378,000 barrels, or 34% above the same date last year. Recognizing that the East Coast demand this winter is expected to be 17 to 19% above last season it is clear that we are off to a flying start.

BURNER SERVICE PROFITS: The reporting group was asked this month for profit and loss figures on their oilburner service departments. It should probably be recognized that these companies are more efficient than average for otherwise they would not be interested in cooperating each month in these studies. In this group, 73% of the companies say that they make a profit on oilburner service and only 27% do not. The companies losing money on burner service are of all sizes, but their percentage is much greater in the largest group or those having annual service billing of over $100,000. The reporting companies were divided into four size groups and the results are shown in the table entitled "Annual Service Billing" that appears on the right.

Putting the whole thing together we find that the total group loses a small amount on service, primarily because the largest companies carry a lot of

(*Please turn to page 182*)

Oilburner* and Building Permits

OILBURNERS August 1952	OILBURNERS August 1951	OILBURNERS 8 MONTHS 1952	OILBURNERS 8 MONTHS 1951		DWELLINGS August 1952	DWELLINGS August 1951	DWELLINGS 8 MONTHS 1952	DWELLINGS 8 MONTHS 1951
54	50	296	457	Albany, N. Y.	..	..	..	..
271	207	1240	1972	Baltimore, Md.	141	353	2379	3558
..	..	..	..	Binghamton, N. Y.	11	24	73	80
..	..	..	..	Bloomfield, N. J.	9	5	59	88
..	..	..	..	Boston, Mass.	56	150	435	319
93	97	507	629	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	46	41	403	382
18	30	368	61	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	54	102	502	642
870	752	5302	2936	Detroit, Mich.	278	508	2920	4804
44	55	296	378	Elizabeth, N. J.	19	4	62	37
12	24	243	269	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	38	38	272	299
..	..	..	..	Hackensack, N. J.	..	11	..	78
43	118	678	1178	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
71	49	327	286	Irvington, N. J.	2	6	21	37
..	..	..	..	Lynn, Mass.	19	12	141	91
104	47	306	231	Meriden, Conn.	..	..	..	..
..	94	..	585	Milwaukee, Wisc.	..	327	..	2050
58	107	629	488	Minneapolis, Minn.	127	143	754	1009
31	22	178	172	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	1	2	38	9
38	35	218	195	Mt. Vernon, N. Y.	..	..	..	..
..	186	..	1182	Newark, N. J.	..	..	..	..
59	49	774	430	New Bedford, Mass.	..	..	..	..
43	49	424	351	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
..	28	..	310	New Rochelle, N. Y.	20	17	173	105
..	6007	..	20696	New York City (total)	..	..	..	..
..	5469	..	16635	Brooklyn-Queens	..	..	..	..
593	538	4429	4061	Manhattan, Bronx, Rchd	..	..	..	..
98	85	542	1126	Norfolk, Va.	56	64	917	675
..	..	..	..	Oakland, Calif.	..	..	..	..
99	118	447	531	Omaha, Neb.	90	85	797	714
28	21	146	148	Orange, N. J.	1	..	15	33
37	28	184	156	Passaic, N. J.	..	..	..	..
111	57	540	411	Paterson, N. J.	14	16	134	141
..	940	..	5375	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	18	17	125	118
57	56	294	388	Portland, Me.	7	18	76	125
510	530	3076	2872	Portland, Oreg.	153	110	1007	1093
19	16	112	127	Poughkeepsie, N. Y.	..	..	..	..
..	90	..	566	Providence, R. I.	13	34	128	187
..	..	..	..	Reading, Pa.	5	2	49	58
34	34	268	490	Richmond, Va.	70	35	441	455
50	140	340	453	Roanoke, Va.	..	..	..	..
435	350	2182	1614	Rochester, N. Y.	..	..	..	..
13	29	107	172	Rockville Center, N. Y.	11	17	51	76
54	30	217	192	Salem, Mass.	4	7	40	56
139	212	1043	1056	St. Louis, Mo.	58	65	378	422
..	66	..	444	St. Paul, Minn.	181	130	869	799
9	63	239	486	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	128	118	1267	1329
..	..	..	..	Springfield, Mass.	81	75	546	523
57	48	448	408	Stamford, Conn.	..	..	..	..
28	2	72	33	Syracuse, N. Y.	43	40	344	227
..	..	..	..	Trenton, N. J.	4	18	107	52
..	..	..	..	Utica, N. Y.	22	14	113	109
111	129	747	590	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	..	57	..	256
52	40	212	230	White Plains, N. Y.	14	5	101	66
77	63	457	563	Wilmington, Del.	16	8	156	182
182	187	1149	1098	Worcester, Mass.	..	..	..	..
85	47	458	438	Yonkers, N. Y.	..	..	..	..
4687	4514	29495	27676	*Totals*	1809	2283	15893	18900
+3.8		+6.5		*Percent Change*	—20.7		—15.9	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

Annual Service Billing

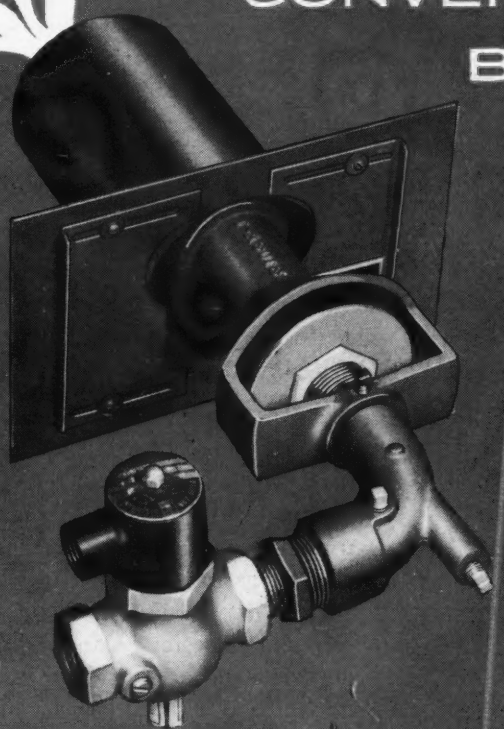
	Under $25,000	$25,000 to $49,999	$50,000 to $99,999	$100,000 *or Over*
Average billing in group	$ 8,004	$33,666	$78,770	$169,800
% of dealers showing profit	62	83	77	39
Average profit	2,310	3,605	6,280	6,060
% of dealers showing loss	38	17	23	61
Average loss	1,012	3,510	9,000	41,660

ADAMS

INSHOT GAS CONVERSION BURNER

ONLY 4¼" DIAMETER!

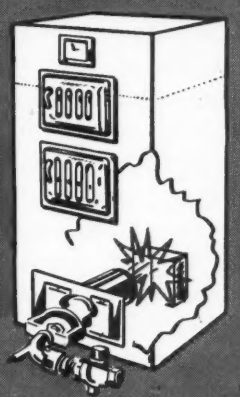
ONLY 7" LONG!



The ONLY conversion burner designed especially to convert Gun-Type Oil-Fired Units to Automatic Gas Heat!

- Completely Automatic
- Simpler to Install and Service
- Wider Application

with all these exclusive features...



Automatic Gas Safety Pilot

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AGA Tested and Certified

Here is the only unit designed especially to convert oil-fired units to automatic gas heat. As illustrated above, the burner tube is only 7" long and 4¼" diameter. This enables the burner to be installed in furnaces or boilers where the average burner will not fit.

A universal mounting flange is available for applications where the burner tube does not project its entire length into the heating unit. This flange is so designed that it can replace almost any oil burner mounting flange.

Maximum capacity of the Adams Inshot Gas Conversion Burner is 180,000 B.T.U. per hour, sufficient to heat the average 10-room dwelling.

36-MONTH FACTORY WARRANTY against defective materials or workmanship in the burner assembly.

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Government Influences on Fuels

by
Milburn Petty

WASHINGTON — Despite the grumbling from some quarters, the Petroleum Administration for Defense has held the line on its request for all-out refinery operations to provide ample fuel oil supplies in the East.

Privately, some refiners contend that PAD's estimated 17% increase in distillate demand on the East Coast is overly optimistic.

Nevertheless, U. S. refinery runs have been at record-high levels, averaging above 7,000,000 B/D. But the production of distillates in the Gulf-East Coast districts has been slightly less than PAD desired. So, officials say it all depends on the weather man.

'Fill Up Early' Drive Pushed

First report of the Census Bureau on secondary storage indicated that 63% of the tankage devoted to distillate fuels by East Coast secondary suppliers was filled as of August 1. Average fill for the U. S. was 55% (excluding the West Coast).

This report prompted the PAD to renew its plea to jobbers and distributors to fill up their own storage and urge their customers to do likewise.

U. S. totals of stocks held by secondary suppliers totaled: Distillate fuels, 17,042,000 barrels; kerosene, 7,179,000 barrels; and residual, 6,305,000 barrels. Next report will be as of September 1.

Fueloil Export Warning issued

A warning has been sounded by Otis H. Ellis, counsel for the National Oil Jobbers Council, that if a heating oil shortage develops his group will seek "reasonable curtailment of exports until domestic demand is met." Ellis made this statement after watching statistics on offshore distillate fueloil movements from the U. S.

Import Tax on Residual Cut

The new Venezuelan trade agreement, effective October 11, will cut the "tariff" on imported residual fuel oil to 5.25¢ per barrel. (On lighter oils, 25 gravity and above, the new rate is 10.5¢.)

Previously, the rate was 10.5¢ on oils coming in under the quota—about a third of the total imports — while above-quota imports took a 21¢ rate. (All quotas are abolished by the new agreement.)

Domestic oil producers contended that effect of the new agreement was a price increase for the importers (because the tariff had been absorbed to equalize with domestic residual).

Coal-state congressmen visited the White House to ask reconsideration of the agreement. But to no avail. In fact, President Truman overruled the U. S. Tariff Commission in reducing the import tax on heavy fueloils.

PAD Surveys Gas Companies

A PAD survey of gas utilities indicates they expect a 57% increase in their sales for residential space heating from 1951 to 1955. (But industrial sales will still account for 58% of total gas sold in 1955.)

PAD has promised to do all it can to get the pipe for expansion, including 26,900 miles of gathering, transmission and distribution lines to be built in 1953.

In answering the questionnaire, PAD told the gas companies to make several assumptions—some of which may be difficult to attain.

These included "realistic pricing" for gas, availability of gas from producers, and gradual but moderate price increases for coal and fueloil.

Right now, the Office of Price Stabilization is preparing to nullify clauses in gas supply contracts allowing prices to "escalate" above 10¢ at the well.

Meanwhile, the Phillips Petroleum Case which will determine whether the Federal Power Commission has authority to control field prices for gas, is still in the courts. If so, many producers probably will continue to withhold their gas from the interstate market.

Also, the FPC's new policy of limiting the maximum return of gas companies to less than 6% may make financing difficult for the huge pipeline projects.

Gas Prospects Please PADers

Some high-placed officials of the PAD were relieved at the gas industry's plans for expansion of its markets.

These officials have been worried over fueloil consumption expanding about three times as fast as gasoline and have been wondering how the brakes could be applied to demand increases—barring some sort of restrictions on new installations of oil burners. Now, they are hopeful that gas will be able to assume a greater part of the heating load.

(Apparently, these officials have despaired of fueloil prices ever increasing to a parity with gasoline which would be a direct solution.

Coal Strike Settled, Prices Up

Coal operators are gloomily surveying the aftermath of their latest strike settlement with John L. Lewis.

They estimate that it will increase costs by an average of at least 40¢ per ton and, for some mines, by twice that amount. This will tip the balance more heavily in favor of residual oil.

The strike did not last long enough to make a dent in coal stocks. For example, electric utilities probably have 150 days' supply on hand now.

Tanker Supply Appears Ample

Government shipping officials believe that the tanker supply for this winter—and for the years immediately ahead—is ample for all foreseeable requirements. There are building now, or on order, in American yards, 59 ships of which 33 are destined for American-flag service. These tankers range up to 46,000 deadweight tons.

Worldwide, there are 707 tankships on order or being constructed, totaling up to the equivalent of 905 T-2 tankers such as were the standard in World War II.

FTC Urged to Hear Complaints

Federal Trade Commission has been urged by Paul Hadlick, counsel for the National Oil Marketers Association, to hold open hearings on complaints from fueloil marketers who have been cut off by former suppliers.

Hadlick was special oil counsel for

(Please turn to page 176)

Contest Winners for 1952

The Selections were particularly difficult, because the Questions were

MEETING IN THE rural atmosphere of Pennsylvania's Skytop Club the three judges put in a long September week-end selecting the winners in FUELOIL & OIL HEAT'S 1952 contest.

In earlier years the contest had been open for any kind of useful suggestion to benefit the oilheating industry and its public. But this year the entrants had to propose specific answers to problems that are of real concern to dealers in the industry . . . 10 of them. These questions had been selected by the judges last spring and everyone knew they were tough, or the industry wouldn't need the answers. On some of the questions there was a fine lot of material; on some of the others the picking was lean.

The original intention was to give $100 to a single winner on each question. That worked all right on seven of the 10 questions. On two others the award was split between two persons in each instance for reasons that will be apparent when you read the entries. On one other, Question No. 6, the award was split between eight entrants. It must have been the hardest question because only eight persons sent in answers . . . "What is a good wage incentive plan for service men?" In the opinion of the judges no one of the eight presented a plan that was practical from the standpoint of the service man, his boss and his customer. Yet each of the eight contributed some interesting thought, so the award was split equally, $12.50 to each of the following entrants:

Jack Slown, Wilmette, Ill., John J. Byrnes, Newark, N. J., Moses J. Murphy, West Hartford, Conn., C. E. Weisner, Meriden, Conn., T. Lyndall Bleyler, Ridley Park, Penna., Francis Martin, Asbury Park, N. J., Mrs. Violet Menna, Philadelphia, and Edward J. Hammond, Elmsford, N. Y.

On each of the other nine questions we will publish the winning paper or at least its significant paragraphs. Then will follow segments of other papers on each question where the judges wanted to give the entrant honorable mention and where the publisher will send smaller checks, ranging from $5 up depending on how much is printed. The presentation of these papers in the magazine will run through the Fall issues.

QUESTION 1

Summer Use for oil Trucks

Winner: FOSTER FAIR, JR.

WE HAVE TWO WAYS of using our oil trucks during the summer months. The first way we are just starting and the second way we have done for a few years.

1. We intend to spray lakes, summer resorts, and country regions, for a price of course, with an insecticide by

Here are the winners

QUESTION 1: "What is the best use for fueloil trucks in the summer?"
Winner: **Foster Fair, Jr., West Milford Fuel Co., West Milford, N. J.**
Honorable mention: Arthur Cohen, Saugus, Mass., A. J. Koziell, Bristol, Conn., and William Sommer, Hartsdale, N. Y.

QUESTION 2: "How have you been able to increase consumer storage capacity?"
Winner: **Remo M. Lombardi, Rye Coal & Supply Co., Rye, N. Y.**
Honorable mention: Mrs. Kathryn Crawford, Greensboro, N. C., Chester D. Shapiro, Monticello, N.Y., and Charles H. Jones, Jr., Baltimore, Md.

QUESTION 3: "What is a good wage incentive plan for fueloil truck drivers?"
Winner: **R. J. Wallace, Hastings, N. Y.**
Honorable mention: Shoreland C. Matthias, York, Pa., Walter Werner, Danbury, Conn., and Charles H. Jones, Jr., Baltimore, Md.

QUESTION 4: "What type of burner service plan is best for the consumer?"
Winner: **George F. Rathjen and Geoffrey Lyons (jointly), Rathjen Bros., Inc., Linden, N. J.**

QUESTION 5: "What steps should be followed in an annual clean-up job this year?"
Winners: **The award was split 50-50 between K. L. Pell, Moscow, Idaho, and James R. Enman, Richmond, Maine.**

QUESTION 5 (*Continued*):
Honorable mention: James L. Carroll, North Bellereal, Mass., Francis Martin, Asbury Park, N. J., and Philip Kaplan, Hartford, Conn.

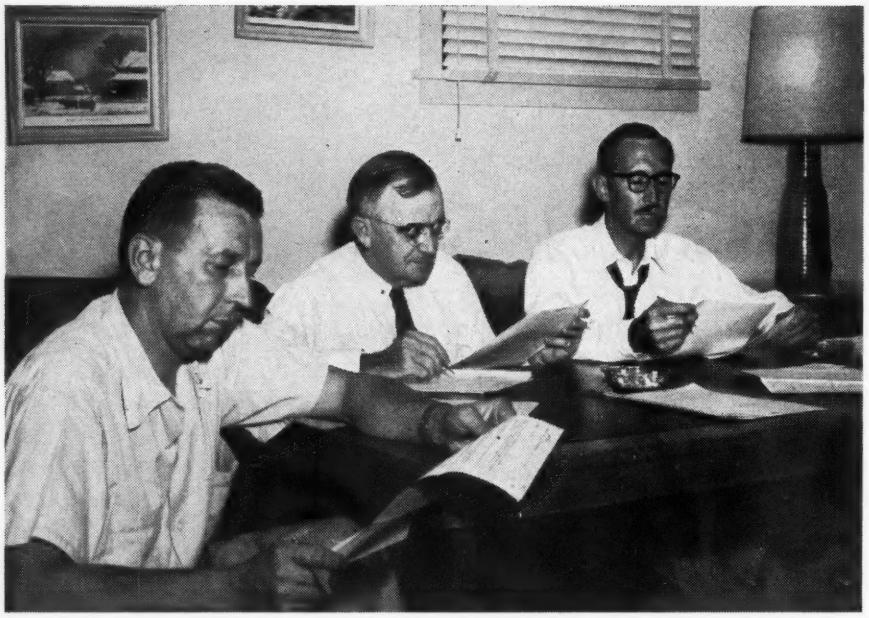
QUESTION 6: "What is a good wage incentive plan for service men?" This was split eight ways, as described in the text of this article.

QUESTION 7: "How have you successfully sold oilburners against natural gas?"
Winners: **The award was split 50-50 between Joseph Neibauer, Elliott-Lewis Corp., Philadelphia, and Norman Scholes, Carbon Coal Co., Des Moines.**

QUESTION 8: "What is the most practical compensation plan for salesmen?"
Winner: **Ken W. Caterer, Skaggs-Walsh, Inc., Long Island City, N. Y.**
Honorable mention: H. Dayton Snyder, Philadelphia.

QUESTION 9: "What fueloil credit program is best for low income families?"
Winner: **Leona K. Harris, L. T. Harris Co., Inc., Lawrence, Kans.**
Honorable mention: Ethel Troxel, Vancouver, Washington.

QUESTION 10: "Where is the oilheating industry weakest in public relations, and what have you done to correct it?"
Winner: **Mrs. Lillian Wellen, New Rochelle, N. Y.**
Honorable mention: Charles H. Jones, Jr., Baltimore, Md.



Here *are the three judges in the midst of a busy and long session spent in reading and evaluating each entry in the 1952 Contest. From left to right, they are: Herb Spade, manager, oilheating division, E. Robison, Inc., Hartsdale, N. Y.; Tom Carson, manager, oilheating division, Sherwood Bros., Baltimore, Md. and George Clement, general manager, Modern Heat & Fuel Co., Philadelphia.*

airplane. We will buy the insecticide powder, mix it with kerosene in the truck and service the airplane at certain designated places. To do this we will have an airplane equipped for spraying and a pilot. We are also thinking of equipping our truck with the necessary paraphernalia to spray from the truck those homes or grounds that cannot be covered by airplane spraying. This we feel sure will bring us a good profitable summer industry.

2. We are now spraying tennis courts with fueloil to get rid of weeds, or any other place such as driveways where the owner wishes to do away with the weed problem. This also is a profitable side line and we hope between our regular summer oil deliveries and the above, the trucks will not be idle too much of the summer.

Honorable mention: A. J. Koziell uses his fueloil trucks for the boiler and cleaning crews. The trucks act as billboards standing in the street for two or three hours and their advertising value is greater than their small extra cost over using conventional service trucks for the purpose.

Arthur Cohen had a good idea in his paper on this question, in case you are not already doing it. He says that when you lay up trucks for the summer, cancel the liability and collision insurance for that period . . . he saves several hundred dollars a year this way.

Then William Sommer believes that the most practical answer is to concentrate on getting larger customer storage so that your trucks can be making more summer deliveries, fewer in the winter. He asks why we don't provide a real incentive for the home owner or the builder to put in large tanks. It can be accomplished he feels with some "serious" selling. Push for 1,000 gallon size which the builder could drop into place at the time of excavation. Help the builder merchandise the big storage as a quality feature of his homes. To individual home owners, give them a real cost inducement for big storage. Sommer's paper rather ties into the next question.

QUESTION 2

Increasing customer Storage

Winner: REMO M. LOMBARDI

WHEN THE BOARD OF FIRE Underwriters changed their rulings several years ago to permit the installation of two 275 gallon tanks in consumer cellars without the necessity of walling them in, which made the cost prohibitive in past years, we immediately embarked on a campaign to increase consumer storage capacity and make additional summer profits.

Along with our spring letter to consumers outlining our servicing plans for the year we included a paragraph urging every customer with a 275 gallon tank to permit us to install an additional tank at a flat cost of $95.00.

We also talked with the city council of our community and had them change the local oilburner code to permit the installation of dual tanks without walling, pointing out the new changes in the Board of Fire Underwriter's regulations.

In that our territory operates at a half cent differential in the delivery price of fueloil as between 275 gallon tanks and consumers with larger capacity we were able to point out a substantial saving in fuel costs as well as added security and convenience in the purchase of an additional tank.

The first year we installed 62 tanks for old customers. This year more than a hundred.

In addition we made it a definite part of our sales policy on new installations to urge the customer to permit us to install two 275 gallon tanks. We have succeeded in most instances.

As a result, our delivery costs have been reduced, we have had fewer run-outs and we are able to deliver more oil during the summer months.

It is a lot easier to sell an additional 275 gallon tank than to convince the consumer to make the major investment that the installation of a 550 or 1,000 gallon outside tank costs today.

Honorable mention: Mrs. Kathryn Crawford's entry was a husband and wife dialogue on a before-and-after basis. This is a space heater family where the increase in storage moves from a single drum to a 275 gallon tank. With the larger tank the household is put on automatic deliveries and that is the principal theme of the family conversation. While the contest questions had contemplated central heating situations, the posters didn't say so, and as a result it was refreshing to get some entries from space heater marketers. As a matter of interest, the space heater industry at its semi-annual meetings is putting a lot of stress on getting dealers to sell 275 tanks with the heaters, so that local oil companies

will want the business.

Charles H. Jones, Jr., made eight points in his appeal to customers. He starts with the thought that fueloil prices are lowest in late spring or early summer and thus with large storage money can be saved. Then he stresses the idea that with large storage the customer has no worry about his winter's fuel supply and again points out that suburban or rural customers are not at the mercy of winter storms that could make deliveries impossible. The judges felt that there was too much negative psychology in this approach. We can't emphasize our automatic deliveries and at the same time threaten people over running out of oil. The winter storm menace to modern delivery methods is very slight.

Jones believes that customers don't like oil trucks running to their homes once or twice a week where storage is too small and that this point can be merchandised. Installation cost of larger storage is no problem in his opinion because the bill is spread over budget payments. More space in the cellar has an appeal to some families, the result of outside storage. Then there's an appeal to the owner's pride, particularly when they are building good homes . . . larger storage better fits their station in life.

Chester D. Shapiro uses most of the same arguments as Jones but has a few other thoughts. He emphasizes the possibility of spills or smells from inside tanks. This again is negative selling and for that reason not sound for the industry. Then he finds that insurance premiums in his town are lower with outside tanks. If the folks worry about the cost, he adds two cents a gallon to the oil price until the tank is paid for. He also overcomes objections to time involved by guaranteeing one-day installation of buried tanks, possible with three men digging, or a backhoe.

QUESTION 3

Wage Incentive for Drivers

Winner: R. J. WALLACE

SOON AFTER THE WAR ended in 1945, when we began reshaping our business policy and labor relations to suit the change of conditions a wage incentive plan for our truck drivers was contemplated.

At that time we were in the process of installing VENTALARM SIGNALS on the basement tanks of all our customers but had by no means completed the project. Also we were planning to design and manufacture a metal stake with a reflector head to act as a marker above the snow for our customers' underground tanks.

Any incentive plan based on statistics gathered before the winter of 1946-47 would, it turned out, be useless to formulate a permanent set of figures, and we realized and informed our drivers at the announcement of the plan that changes would have to be made as soon as we had some experience of its operation.

Our trucks were already provided with Service Recorder equipment so that running, stationary and pumping time could be accurately measured as it was very important to our plan to know the exact time taken for each operation.

In December 1946 we called a meeting with our drivers and made the announcement of our plan which was to go into effect immediately.

Details of the Plan

It would be useless to go into the mechanics of the changes we made in the plan since that time as too many factors were involved and circumstances peculiar to our business prohibit too much detail for the space allowed in this article. It is sufficient, in my opinion to offer the plan as it is used at this time.

Our method of operating the plan consists of allotting a specific amount of time in minutes for each operation of an oil delivery, viz: LOADING, that is, the time allowed to load the truck, make reports, fill the gas tank, etc. at the plant. STOP TIME, that is the time allowed to make connection to the customers tank, measure the tank if underground or the tank has no signal, disconnecting hose, make out invoice etc. PUMPING, time allowed for the actual pumping of oil into the customers tank. Time taken for phone calls to the office, pumping out oil from customers tanks, breakdown of truck or any circumstance not directly connected to the act of an oil delivery is deducted from the standing and pumping time accumulated during the day so that the driver would not be penalized.

So that the driver would not develop into a speeder on the highways all driving time between plant and stops and between stops is deducted from the drivers daily time.

Formula of time allowed

LOADING. 20 minutes per 600 gal. truck.
25 minutes per 2000 gal. truck.
PER STOP. 8 minutes, any size tank.
PUMPING. .02 minutes per gallon.
Using this formula a typical example for one winter month can be illustrated.

ALLOWED TIME One driver

	Mins.
Number of loads, 600 gal. truck, 5 x 20 mins.	100
Number of loads, 2000 gal. truck, 59 x 25 mins.	1475
Total loading time	1575
Number of stops, 456 x 8 mins.	3648
Number of gals. delivered, 117,591 x .02 minutes	2352
Total allowed time	7575
Total time actually used, Net standing and Pumping time	4460
Loading, etc.	1140
Total actual time	5600
Time saved: Total allowed time	7575
Less total used time	5600
	1975

Percentage of total allowed time

$$\frac{1975}{7575} \times 100 = 26.1\%$$

This driver earned $469.00 for the month. He worked some of the time washing and cleaning his truck etc. for which he was paid $23.17. This leaves $469.00 less $23.17 or $445.83 pay for actual fueloil delivery time.

The efficiency percentage of 26.1% was then applied to this figure

$$\frac{\$445.83 \times 26.1}{100} = \$116.36$$

Fifty per cent of $116.36 or $58.18 was paid to the driver immediately. Fifty per cent was paid into our Spill and Damage Fund, a fund established by this means to pay for all repairs to our customers property damaged by oil spills, and all property including our trucks damaged on the road.

In addition to the monthly payment to the drivers the balance of the Spill and Damage Fund after the cost of repairs to damaged property has been deducted is paid to the drivers in equal shares at the end of the fueloil year.

If a driver has not worked the full heating season then he receives a proportionate share. The incentive plan operates only during the months of October to April inclusive and only figures compiled during this period are used in the calculations.

During the year we delivered 7,648,241 gallons, October to April, inclusive at a driver wage total of $31,000.49. The total incentive bonus plan paid was $2,816.20 to thirteen drivers. The amount paid into the Spill and Damage Fund was $2,815.91. Of this amount $1,448.99 was spent on repair or spill and property damage leaving $1,366.92 for distribution to the drivers or $113.91 to each of eleven drivers and $56.96 to each of two part time drivers.

Our incentive plan, it can readily be seen, not only tends to speed up deliveries but cuts down carelessness while delivering oil and recklessness on the highways and at the same time provides more income to the driver if he applies himself diligently to his work.

Honorable mention: Shoreland C. Matthias has a quota-bonus plan that apparently has merit but some of the details were a little cloudy so this will not be published until there has been opportunity to clear up these points with him. Basically it's a zoned plan for driver-salesmen in which the incentive is tied both to operating efficiency and to increasing the gallonage sold.

Walter Werner has what appears to be an excellent incentive plan based on the whole crew of drivers rather than on individuals. There are daily postings of efficiencies and if one driver is lagging the boys tell him about it because he is hurting the whole group. Here is his entry:

THERE IS PROBABLY no good, single answer to the question of "What is a good wage incentive plan for fuel-oil truck drivers?" The plan must be tailored to the individual company and its individual problems. Set forth below is an answer which should be of some interest, however, to any small or medium sized oil dealer.

Our efforts to work out a satisfactory individual incentive plan were futile. Any such plan seemed likely to cause bickering among the men to get the "good drops" i.e., the large storage tanks located close to the loading point. Since our purpose was to have the men to work harmoniously as a team, we turned to a group incentive plan.

The group included in the plan consists of all oil drivers (new drivers enter after a two week training period), the oil dispatcher and the truck mechanic. The two last named men are obviously important in getting out the oil, and are therefore included in the plan even though they do not drive a truck.

The standard of production for the group is expressed in terms of gallons of oil per driver per hour. We based our standard on actual experience over a considerable period of time. Great care was given to the analysis of our past delivery experience because it was clear that unless the standard was fair, the plan was doomed to failure. Since the theory of this incentive plan is that the men will receive 100% of the savings above standard, the standard was set at 10% above previous experience. This 10% represents the company's savings under the plan.

The gallons of oil delivered each week in excess of standard are converted back to incentive hours, which become the basis of the weekly Incentive Fund. The Fund is then divided among all the men in proportion to the hours worked by each.

A daily record is posted each morning. It shows each man's performance the previous day, daily total of the group as a whole, and the total for the week to date. Incentive payments are made each week during the delivery season.

Example of Operation

The plan may be illustrated by a concrete example. (Dollar and gallon values are fictitious.) Let us assume that the standard of delivery is 420 gallons per driver per hour. If 10 drivers work 440 hours during the week, their standard is 184,800 gallons (440 hours x 420 gallons.)

Let's assume that the men actually deliver 218,400 gallons of oil during the week, or 33,600 gallons in excess of standard. This overplus of 33,600 divided by 420 yields 80 incentive hours. If we assume a base rate of $1.20 per hour, the weekly Incentive Fund would then be $96.00, (80 hours x $1.20.)

The Fund is then distributed as follows: If the delivery group (10 drivers plus dispatcher and mechanic) worked 520 hours during the week, we divide 520 into $96.00. The result is an average straight-time hourly incentive rate of 18.5¢, which is added to each man's regular rate.

Special Conditions

This statement of the plan and illustration of its operation are stripped of all qualification. In practice, we convert the gallons to point values and

Drivers' Daily Incentive Report

Date: January x, 195x

DRIVER	DEL. HRS.	ACTUAL DELIVERIES	ADJUSTMENTS	NET DELIVERIES	STANDARD DELIVERIES	INCENTIVE PTS. +	INCENTIVE PTS. —
ODELL	10	4800	+600	5400	4200	1200	
BOB	9½	5500		5500	3990	1510	
MARTY	9½	4200		4200	3990	210	
JOHNNY	9	4218		4218	3780	438	
KIERAN	10¼	5641	—385	5256	4305	951	
DAVE	8¼	4735	+603	5338	3465	1873	
FRANK	8¾	3984		3984	3685	299	
WALLY	9	2986		2986	3780		794
HENRY	9	3920		3920	3780	140	
					TOTALS	+6621	—794
					NET	+5827	

DAILY NET POINTS—+5827
DAILY FUND—$17.46

WEEKLY FUND TO DATE—$95.11

keep our records in terms of Incentive Points. We also make a number of adjustments in both standard and actual delivery. E.g., an adjustment of the standard is made for oil loaded at points other than our own yard where a saving is realized in transport costs although the drivers lose delivery time by such loadings. They receive a special credit in such cases. In the same way, a deduction from actual gallons delivered is made for spills or avoidable accidents. This penalty serves to remind the men of the need for using care at all times.

Large Group impractical

This plan has proved successful in actual practice. We believe that it would not be practical, however, where the group exceeds 15 drivers. As soon as the men feel that their own effort is only a small part of the total, the plan is bound to lose its incentive effect. We have found that where one man consistently pulls down the group's earnings, the other men in a small group will take matters in their own hands. In the same way, the drivers are now much more interested than before in good dispatching to cut down waste time and back-tracking.

We feel that this plan, adapted to meet any special local conditions, can be of use to the moderate sized retail fueloil dealer.

Charles H. Jones, Jr., suggests an incentive for drivers tied principally to safe driving. Here is how he expresses the details of his plan:

TODAY INSURANCE COSTS are becoming prohibitive, in fact, all companies large or small are finding it increasingly difficult to place insurance with responsible companies at rates commensurate with their overall operating expenses. Since insurance companies have not taken the lead to reduce accident frequencies and thus premiums, it is up to the employer to promote safety to protect his equipment and to hold his insurance connections.

We have found that safety and efficiency go hand in hand with insurance and maintenance costs. One of our truck drivers, who was a contest winner last year, had no accidents during the past year and had the best record for total deliveries of fueloil.

I would like to see safety pay a premium to the drivers. I am sure that some plan such as so many extra dollars in the pay envelope for each so many thousand gallons delivered without accident can benefit everyone and will really reward the driver who is doing a good all-round job.

QUESTION 4

Service for the Consumer

Winner: GEO. F. RATHJEN and GEOFFREY LYONS *(jointly)*

THIS ENTRY which was rather rambling in its style, and too long to print in full, comes to grips with one of the industry's real problems.

It is more or less the problem of "orphan" service, or small dealer service. The industry has literally thousands of small dealers who sell only a few burners a year often as a sideline to plumbing or sheet metal shops. They can't afford to support a good burner service department until such time as they have a few hundred such users.

As a result their customers are pretty much kicked around from pillar to post for their service. This paper deplores the prevalence of racketeering service organizations where the man is criticized if he can't make each call amount to at least $10.

The proposed remedy is for the larger independent fueloil marketers to recognize that theirs must be the responsibility for consumer satisfaction with oilheating, not only among their own customers, but in their communities as a whole. It is suggested that a quarter cent per gallon be recognized as a reserve within the company to handle this problem by whatever means are most expedient. Not that a quarter cent is to cover all burner service, but rather that it is a fund set aside to facilitate one or two service calls a year that can't always be collected for . . . in other words, total service responsibility is moved over to oil.

In theory, the quarter cent is to be added to the oil price when OPS goes out of business, or possibly sooner, purely in the public interest.

(Winners and entries which received honorable mention will be continued in the November and December issues.)

Charles Burkhardt joins Staff of FO&OH as associate Editor

CHARLES R. BURKHARDT joined the FUELOIL & OIL HEAT organization as associate editor, October 1, 1952. He comes to the magazine from Scott Publishing Co., where he has been heating editor for three of its publications.

Graduated in 1938 from St. John's University, Burkhardt later did postgraduate work in heat and combustion engineering at Pratt Institute. He joined the oilheating industry as a service man for Concord Oil Corp., Brooklyn, in 1938, became service manager the next year, then switched to oilburner and fueloil sales.

A three-year Army stretch saw him as an officer instructing in heating and power equipment. Then to New York's YMCA Trade and Technical School where he organized its automatic heating department, from which he moved to its Walter Hervry Junior College as instructor in heat engineering.

In 1949, he accepted a spot with Perfex Corp., Milwaukee, as director of field education and from there went back to New York and entered the publishing business with Scott. His first magazine writing was back in 1946 when he did a series of oilheating technical articles for FUELOIL & OIL HEAT.

During eight months of 1949 and 1950, Burkhardt was an industrial specialist in Washington for NPA as chief of the Automatic Firing Devices Section in the Heating Branch of the Building Materials Division.

He is chairman of OHI's Educational Committee and also chairman of a special eight-man study group set up by OHI's Technical Division to recommend an industry service policy.

Burkhardt is the author of a technical book, "Domestic Oil Burners, Installation and Servicing," based on a series of articles he had written.

Cutting down bad Debts

Details of a successful Central Credit Department serving a Group of fueloil Dealers

by
F. Raymond Kraemer

IT HAS BECOME a recognized business fact that operation of a satisfactory overall credit extension and collection program depends upon qualified credit and collection management. This means employment of a trained, experienced and capable credit manager, with adequate assistants and personnel, and, unfortunately, a fueloil distributor, jobber or dealer must be of substantial size to justify establishing a Credit Department under such supervision.

Because of this lack of qualified credit and collection management, with resultant need on the part of the owner or principal of the individual petroleum business to supervise his own company's credit and collections, or delegate the responsibility to clerical assistants in his office, there is continually before the fueloil marketer the problem of operating credit and collections in such a manner as to integrate this activity with his sales, operating, accounting and other programs for the best general interests of his company. In addition he is confronted with the difficulties of collection and, in some instances, disproportionate bad debts which result from operating without thoroughly trained and qualified credit management personnel.

In an attempt to solve this problem, from time to time groups of independent petroleum marketers undertake to get together and exchange information on what they consider their bad accounts. This exchange of information is fraught with a good deal of adverse possibilities. Usually full cooperation is too difficult to obtain, the mechanics of interchanging derogatory information do not function satisfactorily, and there are always legal responsibility implications involved in such a procedure, but most important of all is the question as to what an individual petroleum marketer will do in the way of credit extension to an account which has been reported to him by a competitor through any clearance method which is used in the exchange of delinquent account information.

As a result of these and other characteristics of group exchange of derogatory information this type of activity rarely takes on a permanent nature in any area.

As far back as 1930 we attempted to evolve, in the Long Island, New York area, a credit group of petroleum marketers. Meetings were held monthly and information on unsatisfactory accounts was exchanged weekly. It became obvious in about a year of operation that this program was ineffective because of the circumstances outlined above and we were back to the problem which existed then and which still exists in most areas; to develop a program under which all petroleum marketers in the Long Island area, both small and large, could enjoy the advantages of thorough, competent and experienced credit and collection management.

Central Credit Department

I worked out a plan with these marketers which answered this problem and since it has been in effect since June 1, 1933, it has obviously served its purpose.

This program embraces the following—A Central Credit Department was established. While all companies considered the operation from a "group" viewpoint, individual agreements were entered into under which, in each instance, I was employed as credit manager of each company.

The program has as its general theme to establish a balanced credit and collection program to be coordinated with the individual marketer's business for management, sales, operating and financial advantages.

The general plan involved in this program embraces five activities as follows:

(1) A qualified individual in this field is engaged as the credit manager of each company.

(2) The Central Credit Department under his supervision makes credit analyses of the established accounts of each company and assigns credit limits to such accounts.

(3) All new accounts are investigated and decision as to the amount and terms of credit are established by the credit manager at the Central Credit Department.

(4) Continuous control is exercised over credit extension to established accounts.

(5) The Central Credit Department

Credit and Financial Consultant, Mineola, N. Y., Mr. Kraemer has been for many years retained by a number of representative fueloil and oilheating firms in the Long Island, New York area, so is well qualified to write directly to our industry regarding the Central Credit and Collection Management Plan he operates for his clients.

He is a member of the National Association of Credit Men, New York Credit and Financial Management Association, Associated Retail Credit Men of New York, a Director of the Long Island Association, a charter member of the American Petroleum Credit Association, is Secretary and Treasurer of the Association of Eastern Petroleum Credit Managers and a past President of the New York Petroleum Group of Credit Managers.

follows collection of all past due accounts and accounts as they become past due.

It is quite obvious from these five points that the credit manager through the Central Credit Department assumes all the responsibilities and performs all the functions that are expected of a qualified credit manager for each of the companies in the group, in the same manner let us say, the credit manager of an integrated petroleum company would perform for any number of district offices which might be under his supervision.

Advantages of central Credit

The advantages of this Central Credit Management program are as follows:

(1) Company's principal's participation is required only in matters of policy. After policy is established the plan functions with company personnel, freeing principal's time for sales, operating and other activities in which he is usually most qualified to do his company the greatest service.

(2) Improved activity in sales, operating, accounting, etc. comes about through application of sound credit and collection procedure.

(3) Sales are increased as this plan permits full competition on the part of participant companies to obtain their maximum share of the potential business in the area. These sales increases are a matter of proven experience.

(4) Credit investigations are more efficient since they are handled by qualified people under credit management supervision who know the extent to which each account should be investigated, the most satisfactory sources of credit information and through special credit contacts which can be maintained only by an organized Credit Department.

(5) While not a "group" credit plan, since each company enters into individual credit management contract, each company does receive the benefits from the extensive files which develop through this centralization.

(6) Correct credit terms are established on each account. This probably is the most important advantage of this plan, as under it properly gathered credit information on each account is analyzed by fully qualified Credit Department personnel for proper decision as to credit extension.

(7) An important advantage of this plan is that collections are actually made on a prompt basis resulting in—

(a) Minimum accounts receivable investment in relation to sales.

(b) Expansion without additional capital.

(c) Discounting where terms permit.

(d) Improved credit position.

(e) Numerous advantages of liquid cash position.

(8) Each company's individual identity is maintained. All correspondence with a company's customer is on collection forms and letterheads bearing the company's name and the company's customer is not aware that the "group" credit plan is in effect.

(9) Payments are made by customers direct to the individual company. All collection and other correspondence is handled in a manner which encourages remittances to the individual company.

(10) All individual company credit and past due account collection expenses are eliminated at the time of participation, as these expenses are absorbed through the Central Credit Department.

(11) While accounts placed with attorneys are comparatively few those that are so handled are so directed to attorneys and under fees which make for minimum attorney collection expense.

(12) Experience has proven that bad debt losses are kept at such a minimum amount as to be inconsequential under this plan and as additional protection to the individual company the credit manager's contract provides for a guaranty to the company of 5% of net bad debt losses.

As a result of twenty years of operation under this plan we are able to make the following general observations:

It is possible to operate a complete, most efficient Credit Department for the smaller petroleum marketer to produce all of the advantages outlined above and this can be done at a moderate cost, and

It is likewise possible to operate a complete and most efficient Credit Department for the larger petroleum marketers who may be of sufficient size to operate an individual Credit Department and under the Centralized Credit and Collection Management program to do this at cost savings of 25% to 40%.

Cost Formulae

The following cost formulae have been arrived at from our many years of experience as being fair and equitable for each and every company and to adequately compensate the credit manager and Credit Department personnel responsible for the performance of this program.

Fueloil (Direct to Consumer) Kerosene and Gasoline

Gallons	*Per Gallon Sold*
1 to 1,000,000	.00115
1,000,001 to 2,000,000	.00105
2,000,001 to 3,000,000	.00095
3,000,001 to 4,000,000	.00085
4,000,001 to 5,000,000	.00075
5,000,001 and over	.00065

Fueloil (Wholesale-Resale)

Gallons	*Per Gallon Sold*
1 to 20,000,000	.00025
20,000,001 to 30,000,000	.00023
30,000,001 and over	.00020

Equipment, Miscellaneous Commodities and Services Rendered

Sales	*Per Cent of Amount Sold*
$ 1.00 to $25,000.00	02.00
25,001.00 to 50,000.00	01.75
50,001.00 to 75,000.00	01.50
75,001.00 to 100,000.00	01.25
100,001.00 and over	01.00

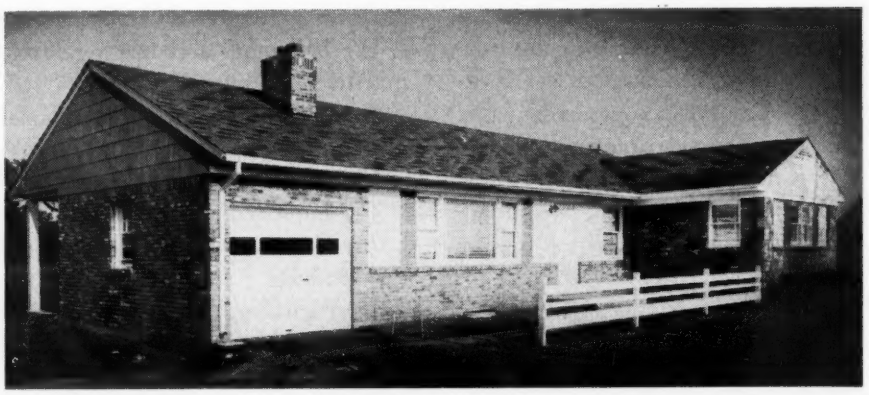
From these cost formulae it will be seen that each company, whether large or small, pays the same amount on each group of sales. These amounts decrease as volume increases in each instance as the Credit and Collection Management basic costs become absorbed by the higher and initial volume figures.

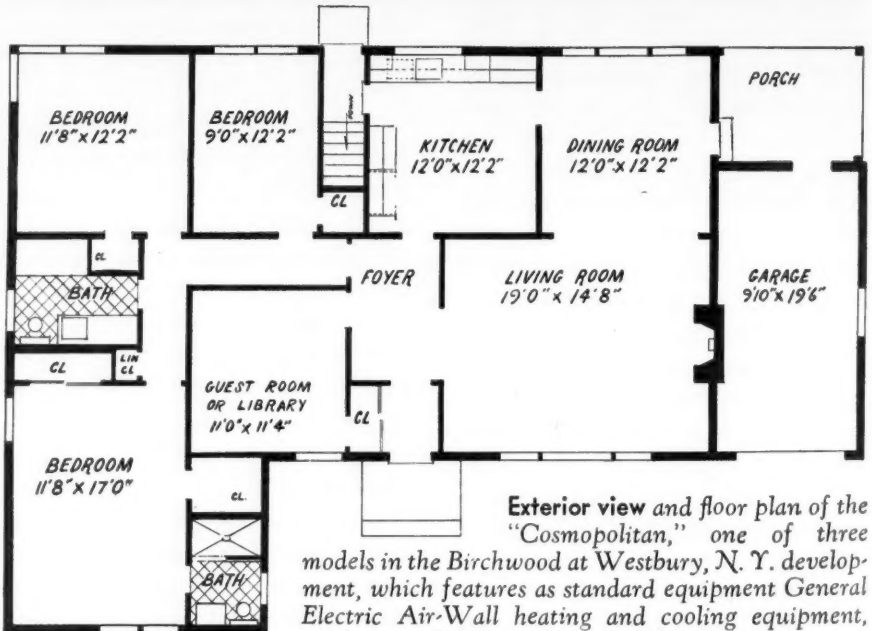
All that is required to make this plan operative is that a sufficient number of companies in any geographical petroleum marketing area get together and establish this program under the supervision and operation of an adequately trained, experienced credit manager. Promotion of this plan can be accomplished by a qualified credit manager interesting a sufficient number of companies, or a group of companies could get together and seek out a qualified credit manager. However it is done, we have proved from experience that it works.

Cold air Profits

Home cooling Prospects offer expanding Sales as Incentive to oilheating Dealers

by
Bert Dunphy





Exterior view *and floor plan of the "Cosmopolitan," one of three models in the Birchwood at Westbury, N. Y. development, which features as standard equipment General Electric Air-Wall heating and cooling equipment, using the same duct distribution system.*

TO THINK of a residence that is completely air cooled during the summer months, brings to mind the luxury-type $50,000 and higher-priced home, far out of the reach of the ordinary homeowner. This does not refer to the half a million homes which are enjoying the comfort afforded by individual room coolers that are performing so well, but rather the centrally-installed cooling system that reaches each room of the house.

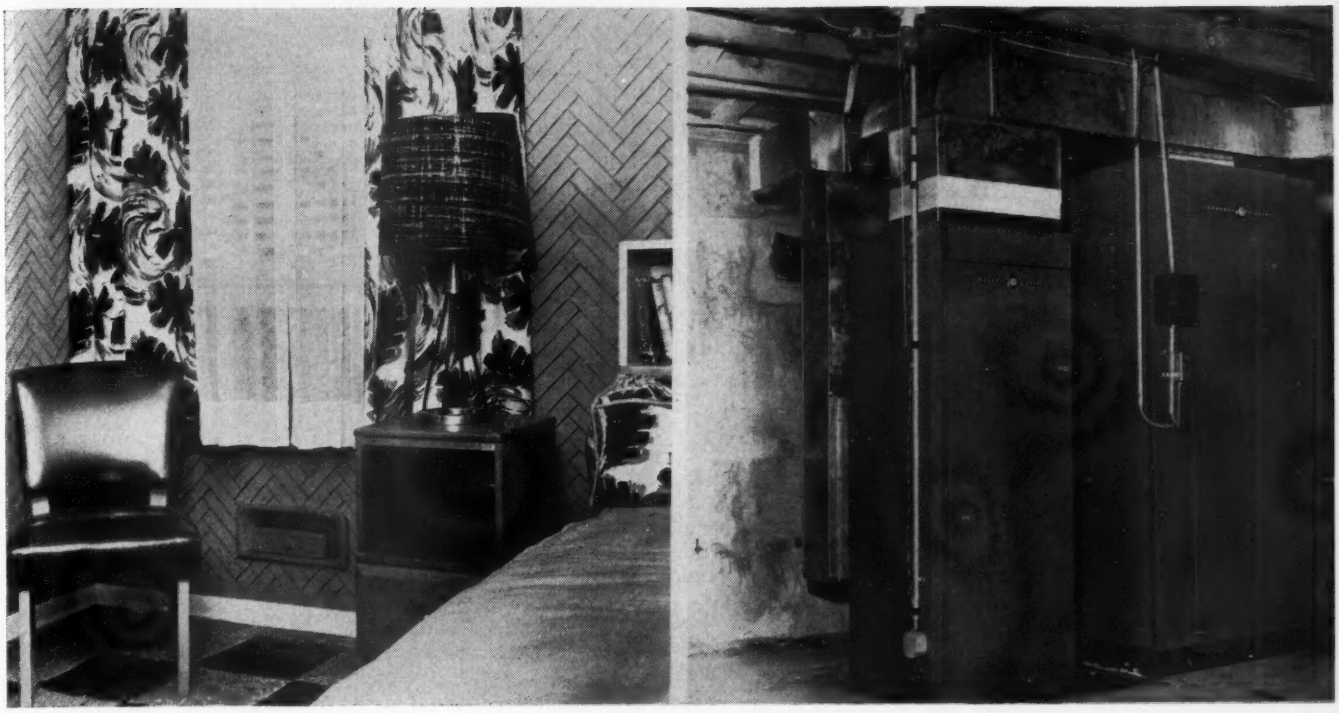
More recently, though, the growing trend among builders of the more moderately-priced homes has been to recognize the sales potential of air-conditioning, with the result that increasing numbers of developments have made available the addition of cooling equipment as an optional extra. This has met with varying success in different parts of the country—and the trend is nation-wide — with the usual reaction being that the purchaser of a new home is intrigued by the possibility of having an air-cooled home, but remains reluctant to add an extra thousand dollars or so to his original purchase price. As a result, in developments where several hundred homes were built, only a handful of the homes added the cooling unit at the time the home was occupied.

At the same time, the heating dealer who installed the warm air heating system in these homes and who had laid out the system to permit the easy addition of cooling then or later was afforded an excellent list of future potential prospects. There is no doubt but what the demand for cooling has grown by leaps and bounds, and were it not that the usual purchaser when he buys a home is making a major investment that depletes most of his reserve savings, many, many more homes would be equipped with cooling at the time they were built. But, perhaps a year or two later when personal finances are in better shape and the desire for cooling has been whetted by the discomfort of hot, humid days and warm, sleepless nights, then the dealer who knows where there are a hundred or more homes which can add a cooling compressor at a minimum in cost and effort, will be in an enviable position to reap a harvest of profits.

On the other hand, some builders and many oilheating dealers, who have had some experience with this type of sale, are convinced that the only way that volume sales of combination heating-cooling systems can be achieved is to make the cooling unit part of the standard equipment that is sold with each new home. They recognize the possible future sales of cooling equipment that can be made to those homes that are equipped with a well-designed warm air heating system, but maintain that there will be little sales resistance engendered by wrapping up the cooling unit in the package that includes the other home accessories and offering all at a set price.

These advocates of summer cooling as standard equipment point out, further, that it's considerably easier and cheaper to add approximately $1,000, the average cost of a compressor big enough to provide cooling for a home, to the original 20-year mortagage, than it is to finance it later on an FHA home improvement loan over a 36-month period.

With this in mind, it is significant to observe the commencement on Long Island, N. Y., of the largest housing



Year 'round *air conditioning installed in the Birchwood at Westbury model home is shown at the right. A close-up view, in the left-hand picture, demonstrates placement of the Air-Wall registers in one of the bedrooms. Heated and cooled air is handled by the same registers.*

project in the country offering year 'round air conditioning as a standard feature. Known as "Birchwood at Westbury" the development will have 450 air conditioned homes when completed. Herb and Sy Sadkin, the builders and among the most active on Long Island, predict freely that, in their opinion, 20% of all homes built there next year will include air cooling.

The Sadkin project will offer three different models, 5, 6 and 7 rooms, in the $20,000 to $24,500 class. The houses are to incorporate 2, 3 and 4 bedroom styles with crab orchard and fieldstone fronts, central hall layouts, 1 and 2 baths, full basements, garages, expansion attics with double dormers and 21-ft. enclosed and louvered breezeways. Stanley H. Klein is the architect.

General Electric's Air-Wall system of heating and cooling is being used in the homes, with installation of the entire system being handled by Jacques Segal of United Combustion and Air Conditioning Co., Bayside, N. Y.

Segal started the United organization four years ago, actually in April, 1948, and almost from the start has concentrated his efforts on sales to builders. The firm operates its own sheet metal shop and installed its first group of warm air heating systems in a development of 53 homes. Total business the first year was about one-tenth of today's volume and the company now regularly employs 40 to 50 men, with about one-third of them kept busy in the shop, the balance on installation work.

United has reached an average of several thousand warm air heating systems installed each year, with a ratio of about one gasheating system for every 10 oilheating jobs. In addition to the Birchwood development, the company has handled a number of other jobs involving large numbers of homes and most recently was awarded the contract for Concord Village's new Bar Harbour development that will total 700 homes. All will have warm air heating, designed for the addition of cooling equipment.

Segal explains that he has concentrated on builder work because he operates a union shop and has found it impossible to meet competitive bids for individual home installations where he comes up against non-union shops. Also, operating as large a sheet-metal shop as he does, he has found it conducive to more even scheduling of work to regulate his production in terms of a multiple number of installations, rather than the comparatively few residential systems that could be anticipated. Then, too, in development work he can set up his sheet-metal production to turn out a large number of the same type of ducts and fittings more economically than if each had to be regarded as a tailor-made job.

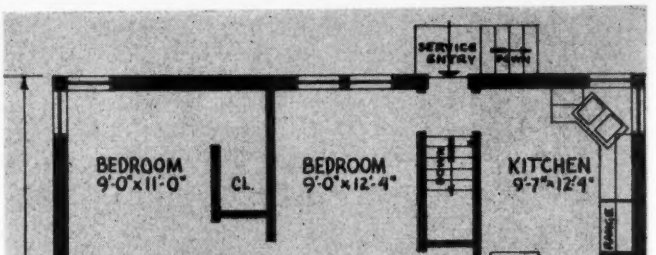
When asked about the addition of cooling to existing warm air heating systems, which he conceded were numerous in his territory, he said they had been avoided except in isolated cases, because he found that to do these jobs properly it involved many times going into the general contracting business. In other words, unless the warm air heating distribution system was exactly designed for the application of a cooling unit tied into the same ductwork, revisions are needed that may range from simple change of registers and grilles to a complete redesign of supply ducts. If this is necessary, Segal says, then the cutting through walls and floors, refinishing and replastering when the work is finished involves a type of work that he prefers to avoid. Some cooling systems have been added to already installed warm air jobs and there will be others, too, but only in special in-

stances, explains Segal, such as the few that have been installed for architects who are familiar with the work the company has done in housing developments they designed.

United has close to 2,000 homes on contracts for installation of combination heating-cooling systems next year, as evidence of Segal's contention that he has found little or no sales resistance toward these combinations. Along with practically everyone else approached on the subject, he agrees that the prospects for expansion of cooling sales to residences are bright, and, as far as he's concerned he's much more interested in new home work.

The company works closely with fueloil companies and oilburner dealers in securing its work and does not handle exclusively the equipment of any manufacturer. In fact, Segal explains it's usual for him to purchase the heating and/or cooling equipment needed for his jobs from the dealer who brought him the lead and then to turn over to the dealer the oil contracts when the installations are completed. Then, on those contracts where no other dealer is involved, Segal purchases the equipment he needs direct from the manufacturer or his local jobber, stocks it in his own warehouse and delivers it to the job as needed.

United augments its domestic work with commercial cooling, which accounts for about one-fifth of its cooling volume. As a matter of fact, the company is working now on plans for a new office and sheet metal shop in or around East Meadow, Long Island, to place its operation near to the home developments on which it is working. The present plant would be retained for its commercial work.



Floor plan *of the Herzog - Kuntze home, Des Plaines, Ill. The heating - cooling units are installed in the basement, directly under the dining area.*

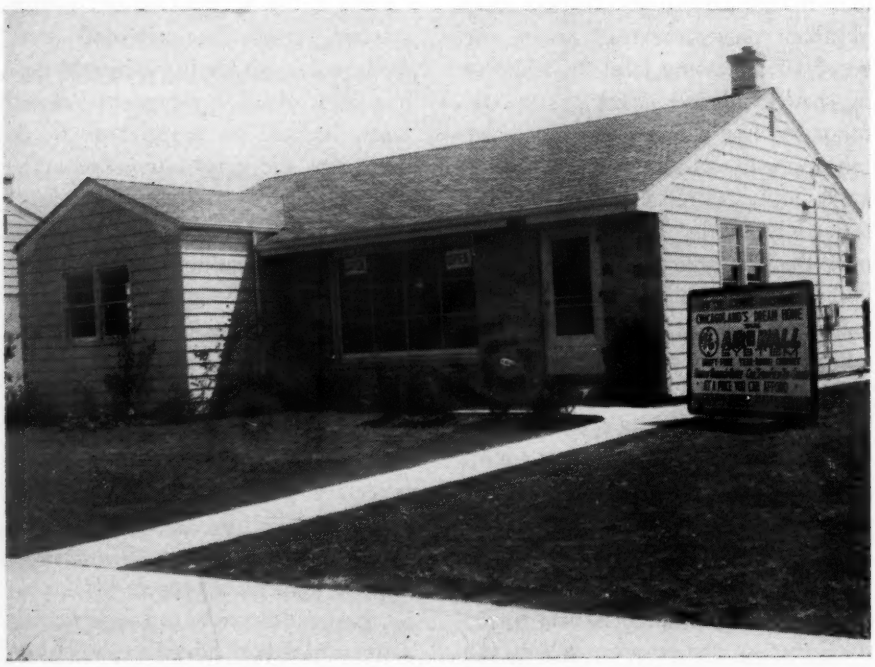
The company performs no oilburner service work, but turns this over to the oil companies. Segal explains they exact no fees on commissions for oil contracts made available to these oil companies and so feel free to "jump all over" any of them about whom a customer complains of unsatisfactory or lack of service.

Cooling service has been handled up to now on a sub-contract basis, but United is setting up its own service department for these installations and will have it in operation shortly.

The visit to Segal was made a day or so after the announcement that the provisions of Regulation X had been suspended and he echoed the sentiment of others that this could not help but boost the number of airconditioning sales.

This feeling is reflected in the reception accorded the homes being built in Des Plaines, Ill. (Chicago suburb) by the Herzog-Kuntze Realty Co., where only a few buyers have availed themselves of the opportunity to add cooling at the time of purchase. Again, the high down payment required by Regulation X has prevented the addition of the $1,000 tacked on the selling price when cooling is added. One bright spot is the report that at least 10% of all who bought these homes have expressed the intention of having the cooling units installed next Spring.

Herzog and Kuntze, the builders of these homes, have a progressive company which recognized summer airconditioning as a real selling point. And they were anxious to capitalize on all possible selling advantages, because, like most others, they build on speculation—first they build the homes and then they have to sell them. Despite the addition that cooling would make to the selling price, Herzog & Kuntze felt that if people want cooling badly enough, they will understand it's



Model home *in the Des Plaines, Ill. project, where Air-Wall heating is installed and cooling equipment can be added as an optional extra.*

a premium item and expect to pay more.

In Des Plaines, also, General-Electric Air-Wall systems are being used, each home being equipped with a forced warm air heating system, utilizing 4" round ducts and low level diffusing registers. Nearly all of the homes will have oilburners, and for those who want it when they buy the home or decide to add it later, the cooling compressor will be hooked up to the same distribution system as is used for heating.

The cost of operating the cooling portion of the system has been estimated at approximately $50 for the season. Two ton cooling units are used in these homes, with a pair of thermostats—one controlling summer cooling, the other winter heating—utilized for automatic temperature control all year. Furnaces and airconditioners are installed side-by-side in basements or utility rooms, depending upon which of the five available model homes is involved.

The builders are sold on this type of system, because both Herzog and Kuntze had the old heating systems removed from their homes and replaced with an Air-Wall heating-cooling combination.

Installing contractor is W. A. Tapper, who operates the Central Heating and Air Conditioning Co. at Des Plaines, Ill. Since starting his own business in 1947 Tapper has acquired the reputation of being both aggressive and progressive in his heating merchandising. He used to be an automobile salesman and actually went into heating work when he tried to buy a furnace for his own home. The people he went to in an effort to be allowed to buy a unit he found archaic in their ideas about selling, in fact not once did anybody try to sell him what he wanted. He took a quizzical look at all this, in effect decided "That's for me" and opened up shop.

The first year he did $35,000 worth of business and now, five years later, he is approaching the $400,000 mark. Tapper sells both furnaces and boilers, gas and oilfired, and about 80% of his sales are General Electric equipment. In addition, the company has its own sheet metal men and pipefitters, Tapper himself carries an electrician's card and is a licensed electrical contractor. Central Heating makes it a practice to exhibit in every home, show or exposition in the neighborhood, and only recently displayed the entire G-E line at a local exhibit sponsored by the American Legion.

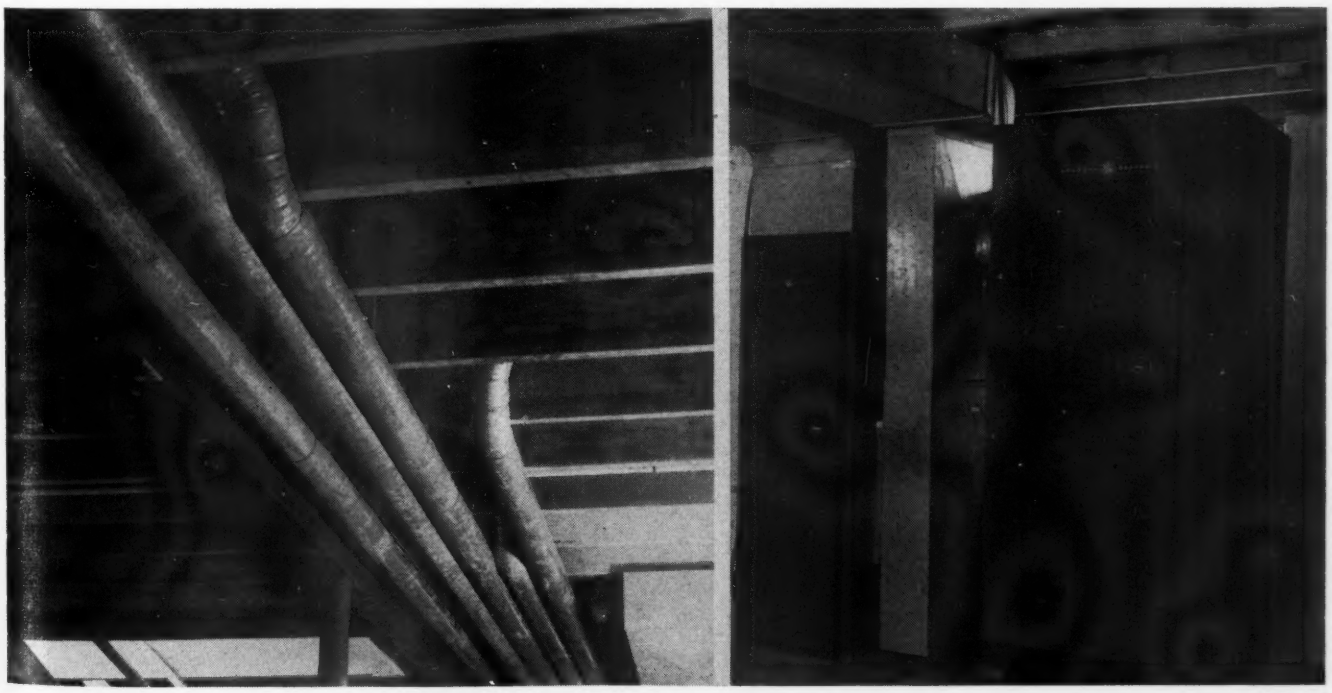
Expansion of the business has resulted in the purchase of six new trucks for installation and service, all of which is taken care of by the company's own personnel, numbering about 15 assigned to this type of work.

Tapper was quick to become enthusiastic about the Air-Wall system and is particularly sold on the placement of the registers for this system on outside walls. With air supplied through the 4" ducts, he's convinced that more effective air distribution is achieved by the low delivery of air, providing that the register is regulated to provide proper diffusion.

One of Tapper's cardinal principles is never sell a job unless there is reasonable assurance that it will work. He has turned down business following this credo and it has paid dividends. Now, nearly everybody seeks him out for advice on installations, because they are confident they will get straightforward answers.

It's particularly interesting to report how Tapper regards the Des Plaines development, reported as being the first in the area to provide summer airconditioning. Far from being disappointed in the small number of homes that have been sold with the optional cooling unit, he looks upon each new installation of a forced warm air heating system here, and in other places,

(*Please turn to page* 180)



Typical *heating-cooling combination installed at Des Plaines, Ill., with a close-up of the 4" Air-Wall ducts that are used for air distribution. Cooling equipment is offered to home purchasers here for $1,000 extra.*

The Camera looks at Lewis Oil

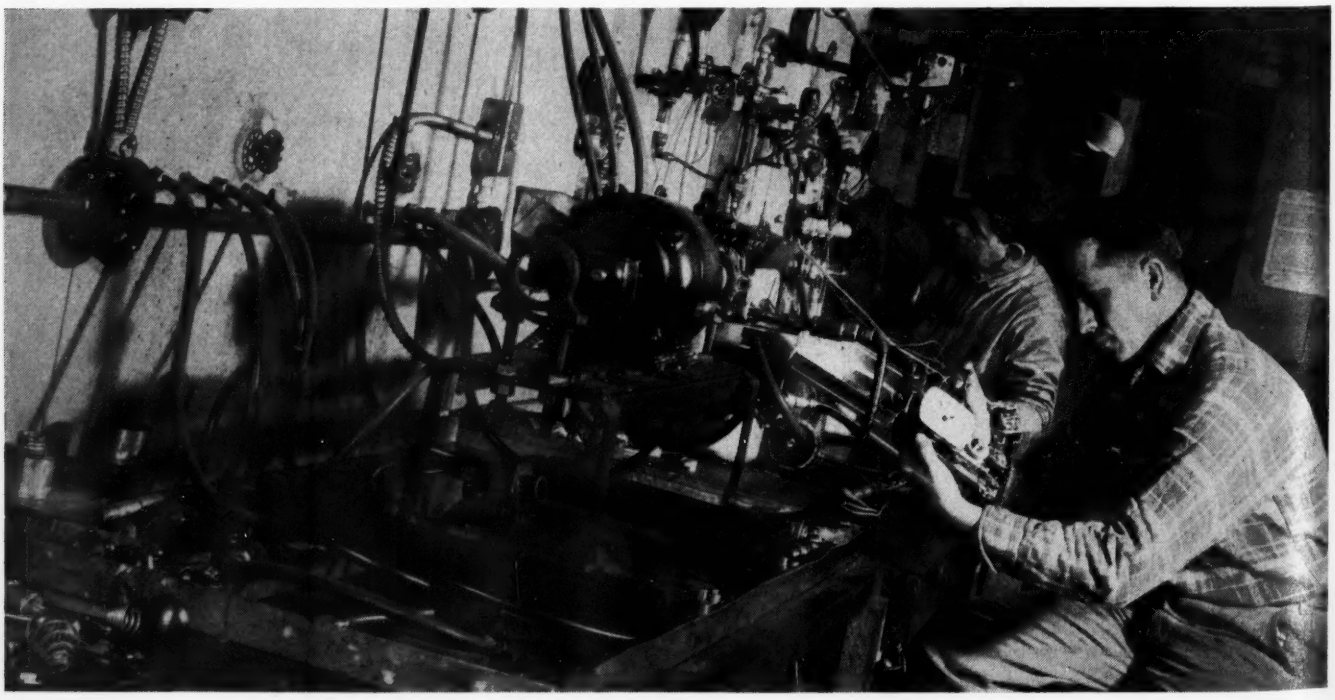
FOUR LEWIS BROTHERS today operate in Port Washington, L. I., N. Y., the company their father and a bachelor brother founded in the 1880's. Organized to transport shellfish to Manhattan by water, coal was added later to provide a payload both ways for their boats and in 1928 the company entered the fueloil business. Coal sales recently were discontinued.

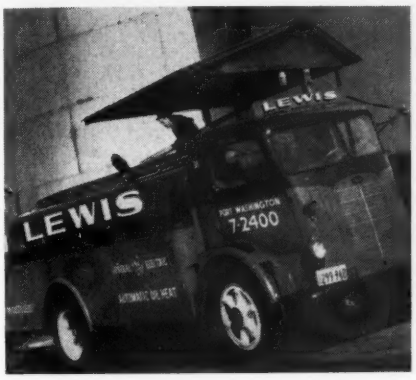
Harvey W. Lewis is president of Lewis Coal and Oil Co.; Edwin H. Lewis heads a subsidiary marine transportation company which owns a 750 hp. tug and 3 steel hulled barges; George Lewis is the truck dispatcher and John Lewis is Harvey's assistant.

Lewis Coal & Oil's total sales have reached a volume of 30 million gallons from a waterfront bulk plant terminal with storage for 7¼ gallons of light fueloil. It services 6,000 retail accounts with Gulf Solar Heat fueloil and nearly 98% of these customers are on automatic degree-day delivery. All inside and some outside tanks are equipped with VENTALARM signals. Seventeen fueloil trucks are operated, along with two transports of 4,000 and 5,000 gallon capacity for wholesale business.

The photographs reproduced here are part of a series that were used in a group of folders on "Lewis Service at Work, which depicted the many facets of the organization. Beginning at the upper left of this page, Eddie Miller is shown making a typical delivery to a customer, while alongside Mike Herbert applies the finishing touch to a burner tune-up job.

Along the bottom of the page is a view of the complete machine shop Lewis maintains for repair and rebuilding of burner parts and controls. In addition to burner service on call and annual cleanings, Lewis offers a complete burner and parts contract, including everything except the oil tank,





for $31.50. Without parts coverage, the contract is available for $24.50.

Next, the group of four pictures catches an interior view of a well-equipped truck, of which 9 are operated for service, 3 for installation work; finds Pat Brennan and Milt Novak at work in the company-operated equipment service shop; shows truck No. 38 pausing for the fill that replenishes and watches Fred Gosselink operating a degree-day recorder.

Finally, the camera spies on a guard on a routine inventory check-up and pictures Eddie Komoroski, Vic Dessart, Jack McLaughlin and Johnny Ross in the morning "line-up" for their service call assignments.

"For nice, quiet Oilheating . . ."

What a Serviceman can do for the one Job in a thousand that really acts up

by
J. W. Schulz

THIS OWNER OF A BIG plumbing and heating supply house had arranged an excellent system for remote control of his company by himself. Matters of policy and finance took up the few hours he spent in his office each week. He took little interest in the technicalities of the furnaces, boilers, sinks, gas stoves, and fittings in his warehouses and on his counters. He remembered only dimly that some years ago he had started selling oilburners and controls to the plumbers and heating contractors who were his customers, but he knew from what his accountants told him that now burners, controls and automatic heating equipment were showing up in his books as exceedingly profitable. That was as it should be, he reasoned, however it was no reason for him to take any more interest in an oilburner than in a sink or a stove. He wasn't the type to become disturbed by, or even involved with, a piece of equipment.

Things started changing for this supply house owner when, one morning, his capable secretary came to him with a worried look on her face and a letter in her hand.

"I've never before had any trouble answering the complaint letters we get from home owners who wind up with our stuff in their homes," she started out. "But now I simply have to ask you to help me answer this last letter from a woman who's got one of our oilburners. A plumber in the next town bought the burner from us and installed it in her house. Probably he's not doing very well with it, because she keeps writing us letter after letter. I've answered every one of her past letters properly, but she just keeps on writing us."

"Well, what does she want?" the boss demanded impatiently.

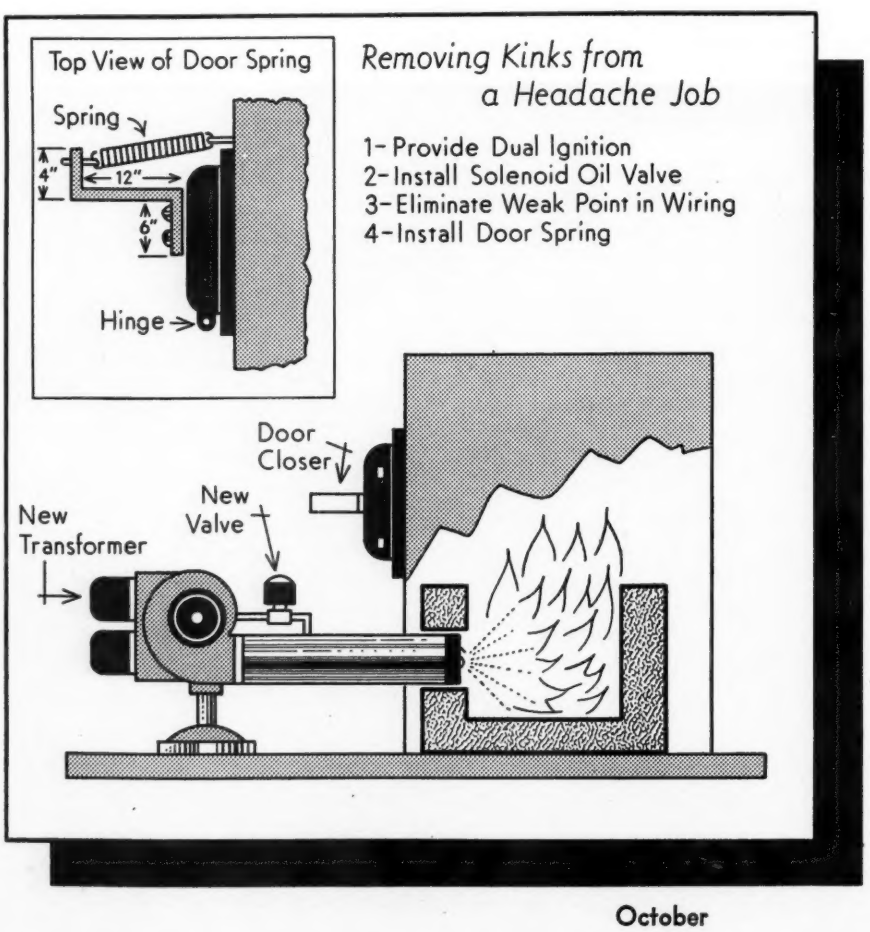
"All she wants is nice, quiet oilheating, like everybody else has."

"That ought to be easy," snapped the boss, and he snatched the letter from his secretary's hand and started reading it.

The intolerant expression on his face had changed to one of horror by the time he started reading through the letter a second time, and he began muttering out loud.

"Yep, says here at the beginning, like at the end, that all she wants is nice, quiet oilheating. Like everybody else has. Been through this for almost a year now. Did you see this about the smokepipe? Man had to put it back up five times last month. Something all over the living room and the whole house, every time it happens. Guess the insides of the smokepipe and boiler don't stay very clean. Those firing doors and flue clean-out doors, they're made out of iron, aren't they? They don't break easy. She says about a dozen new ones went on the boiler in a year. We must have sold them to the plumber. Make a note to keep plenty of them in stock, because a thing like this will run us out of them. It says here that the basement windows got broken and were replaced an awful lot of times, and finally the plumber who put in the burner told her to leave them open so they won't break some more. She complains about that. Says that lots of cold air and alley cats keep coming in her basement with the windows open."

He slammed the letter down on his desk.



"You put in phone calls right away to the plumber and the engineer who works for that company that makes these oilburner gadgets, we sell," he ordered his secretary. "If there's something wrong with that oilburner, she's to get a new one right away. Doggone it, I'll spend a hundred dollars if I have to. But that woman is going to wind up with nice, quiet oilheating . . . like everybody else has."

Things did not turn out to be that simple, even

for a big business executive riled up to the degree of being willing to spend a hundred dollars. It turned out that the plumber, aghast at the Frankenstein his installation had proved to be, had actually installed four new oilburners in the house. When the first burner kept on acting up for four months, he had reasoned something was wrong with it and had removed it and installed another brand-new burner. After replacing the motor, fuel unit, gun tube assembly, and ignition transformer of the second oilburner, he concluded that this burner also must have a hidden defect that kept on causing the firing door and smokepipe to leave the boiler swiftly, so he had installed a third new oilburner. Things kept on happening. Twice in one morning, the woman was the victim of the oilburner's bad temper. The installation had built up a reputation for asserting itself at least once every two weeks. The third burner repeated this cycle.

Fourth Burner follows Suit

The fourth burner had been installed only three months before the supply house owner saw the owner's letter, which by the way was the fifth letter she'd written to the supply house plaintively asking for nice, quiet oilheating. There'd been a day-long session on the job. A factory engineer from the burner manufacturer did his best to help out the plumber who'd installed the burner. Finally, in desperation, the factory engineer had told the plumber to install not only a new oilburner (the fourth) but also to replace every single control on the job with a new control. Within a week, the new burner proudly and loudly announced its presence in the neighborhood. During the three months it was in use, the fourth burner made certain to repeat the announcement often and to prove it was no weakling.

Feeling almost helpless for the first time in his life, the supply house owner acted like the big business man he was and tried to cope with the problem by holding conferences. He held long, serious conferences with the plumber who had installed the burner, five executives and engineers from the burner manufacturer's factory, half a dozen fueloil and control experts, and just about every serviceman who came into the supply house for an oilburner nozzle. He got to staying at his office all day long, talking all the while. All the talk was about this woman's troublemaking, violent oilburner.

He got to know the woman over the telephone, and half a dozen times a day he phoned her asking, "Did it do it again yet?" When, as if to oblige because he was interested in it, the burner put on the greatest show of the year, the supply house man visited the house to see things for himself. This was the first time he'd ever seen one of his burners installed on-the-job. Appreciating the honor of having this big business man come to visit it, the burner started appearing in his dreams . . . and his nightmares.

"I'm in this dilemma," the supply house owner declared one day as he tried to analyze his way out of his trouble. "I sold that burner and so am responsible for its (1) being free of defects, and (2) performing properly. I back up what I sell. I do more than that. I do whatever is necessary to make it perfectly clear to everybody that I back up 100% every item I sell. Now the burner and controls on that job, which I supplied, clearly are free of defects. If providing entirely new equipment would end the trouble, I'd gladly take that step. But that step has been taken. Four brand-new burners, each free of defects, have been tried on that job. Entirely new controls have been installed. Experts can't find a thing wrong with the oilburner and controls I sold for that job.

"Yet that burner acts up in a big way, and I seem to be responsible for that because I sold the burner.

What can You do?

"What in the world can you do when a perfect burner, perfectly installed and perfectly serviced according to the men from the oilburner factory, continues to act up and pin a black eye on you?"

Finally worn down, the supply house owner lost his big-business-man manner. Ironically, he became as plaintive as the woman who owned the burner and used her very words as he begged for assurance that in this house there would be just nice, quiet oilheating. He did go so far, however, as to specify two more things: First, he would put a nice, new heavy-metal smokepipe on the job, and it would be rigidly supported and gas-tight; but, he specified emphatically, this time it's supposed to stay up! Second, please, specifically no more broken flue clean-out doors or firing doors!

After about five months of uneventful burner operation, the supply house man became exceedingly interested in the steps which I had the oilburner installer take in an effort to end the trouble. At first, when my efforts to end the trouble started, he was not interested in what was done or how much it would cost him; he simply asked that every imaginable step be taken to make certain there'd be no more trouble, and he definitely was not interested in the technicalities involved. He was smart enough not to get into a position of discussing possible safeguard steps, and as a result having to make comments, conclusions and decisions for which he could be held accountable later. But five months later he wanted to know all about each of the steps used to remove the kinks from this job.

How the Headache was cured

Here are the steps which seemingly were successful in taming this burner and producing nice, quiet oilheating from it:

1. Provide dual ignition.
2. Install a solenoid valve.
3. Eliminate a weak point in the wiring.
4. Install a door spring.

Bear in mind these factors, which I pointed out to the supply house owner before undertaking to explain the "Why" of each of these steps. This is a typical inside-tank pressure burner installation. The controls are typical, except that the safety control panel was tricked up by the oilburner factory men to act somewhat faster than such a control usually acts. This was done when the fourth burner was installed on the job, and it undoubtedly was a good thing to do although it did not lead immediately to peace and quiet for the burner owner. As a result of using the tricked-up safety controls, on starting the burner will run

only about 40 seconds if the safety control is not affected by the flame; start up the burner with no flame, and it will stop "on safety" in about 40 seconds.

Bear this in mind also. This is a steam heat job, and on coldest mornings the steam pressure control often starts and stops the burner for hours. The firebox is of heavy refractory material. With the firebox red-hot or nearly so when the burner starts, failure of the burner's ignition system may result in firebox heat igniting the oil being sprayed into it. If the firebox is exceedingly hot and ignites promptly the oil sprayed into it as a result of starting the burner motor, there'll be a mild "Pop" when the oil lights. But if the firebox is somewhat cooler than that and therefore ignites the oil only after the burner motor has run for 30 seconds during an attempted start-up of the burner, much more oil vapor will be ignited and the "Pop" will be so vigorous as to cause the burner owner to say that this is not nice, quiet oilheating.

Why dual Ignition

There's one more thing. The combustion space inside this boiler is relatively small for the firing rate being used, and the flues of the boiler are the highly restrictive, tortuous type. Thus relatively high gas pressure results in the combustion space, because it is small, when a small amount of oil vapor is ignited there. Also, the restrictive flues do not permit gases to escape rapidly from the combustion space in the boiler, when momentarily the pressure is high in this space because collected oil vapor has "popped."

Here's the why of providing dual ignition for this pressure burner. After getting all this attention which was given specifically to avoid any "Pop" in the future, this burner should never again perform any way except nicely and quietly. With the burner starting and stopping frequently on a cold morning because the steam pressure control is in action, failure of a spark or an ignition transformer may cause another "Pop." Though unusually fast, the safety control panel will permit oil to spray into the firebox for about 40 seconds when the spark fails. Ignition of this oil by a hot firebox can cause a "Pop," especially if the burner motor runs for 30 to 40 seconds before firebox heat lights the oil. Thus at times the job can "pop" because of ignition failure. We know that transformers fail. One may fail on this job. The job may be the one in a thousand whose transformer goes dead this year, next year or the year after. Two transformers were put on the burner to eliminate any chance of the burner's acting violently as the result of the failure of one transformer. Two sparks are used for the same reason. At least twice a year, the man who services the burner will use a flame mirror to ascertain that both of the sparks are effective. If he finds the burner is starting up on only one spark, he'll get to work and provide two good sparks, either of which ignites the oil instantly after the nozzle starts spraying it.

Why was the solenoid valve installed in the nozzle line of this pressure burner? Well, this is a delayed-opening oil valve, opening about four seconds, usually, after the burner motor starts. An investigation proved that this burner has a split-phase motor that draws quite a bit of current on starting, and that therefore there's an appreciable voltage drop at the burner while the motor is starting . . . while the motor's starting switch is closed and its starting winding is drawing quite a few amperes. The voltage at the burner, available for the ignition transformer, definitely is lower than desirable during the time it takes the motor to come up to speed and open its starting switch. The spark is weak when the motor is coming up to speed. Use of the delayed-opening oil valve definitely works in the direction of better, more prompt ignition

Thorough check-up Steps for headache Jobs

1. *Test controls. The safety control panel is most important, but test also the thermostat and all limit controls.*
2. *Test the wiring for a weak spot. Use a voltmeter and an overload on the wiring. Don't do any damage!*
3. *Is the voltage dependable? If in doubt, use a recorder.*
4. *Make certain the ignition transformer gives a strong spark.*
5. *Check the fuel unit. Measure the normal and maximum vacuum. Look for a leaky shut-off valve or a leaky shaft gland.*
6. *Check the high-tension ignition system.*
7. *Consider switching to continuous ignition, if it has not been used. But make certain the combustion head is suitable for continuous ignition.*
8. *Check the suction line of an outside-tank job. Air leaks? Excessive vacuum caused by shortcomings in the suction line?*
9. *Check the nozzle performance, using a flame mirror of course. Always install a new nozzle suitable for the job.*
10. *Check suction line strainers and filters. Install a good filter, if the job hasn't one and it may help.*
11. *If advisable, clean the furnace or boiler flues and the chimney. Use a vacuum cleaner and do a thorough job.*
12. *Install a strong, rigidly-supported, air-tight smokepipe.*
13. *Use combustion-testing instruments to make certain of arriving at healthy combustion. Read the smoke as well as the stack temperature, CO_2, and smokepipe and over-fire draft. You've got to get good readings!*
14. *Locate and seal air leaks in the furnace or boiler. Use strong, shipshape means for making the job air-tight.*
15. *Make certain the furnace or boiler can relieve a combustion puff nicely, without building up high pressures. Many headache jobs need a combustion-relief door.*
16. *Install a delayed-opening solenoid valve in the line to the nozzle.*
17. *Check the fueloil in the tank; check for water in the tank.*
18. *Wind up with the boiler room and burner equipment spic-and-span. Paint an old burner. Eliminate dirt, soot, and dampness. Use common sense to eliminate all hazards.*

of the oil sprayed from the nozzle, because it permits the oil to spray from the nozzle only after the motor has come up to speed, the voltage for the ignition transformer therefore is up to par, and the spark is therefore strong.

Delayed oil Valve helps

Manufacturers who offer delayed-opening type oil valves for pressure burners should start pointing out that on certain jobs, where the voltage at the burners drops while the motors are coming up to speed, the use of these valves leads to better, faster ignition of the oil first sprayed from the oil-burner nozzles. Safer, faster ignition is gained by letting a burner motor come up to speed before putting a spark to work.

Why did we eliminate a weak spot in the wiring of this installation? To provide a strong spark, for the weak spot gave low voltage at the burner at times. The problem was to ascertain if the wiring had a weak spot that could be responsible for the burner's nasty behavior in the past. I've got a standard procedure for determining whether or not there's a weak spot in oilburner wiring. It involves use of a voltmeter and overloading the wiring. Disconnect the two wires from the burner motor, and connect them to the voltmeter and to a 1,800 watt load. Put in the "on" position all the controls and switches of the burner motor circuit, tying in or blocking in the motor-starting contacts in the burner control panel. Throw on the main switch, and read the voltage at the point of the heavy load. Compare this with the voltage usually at this point. This will tell you if, because of the heavy load of 1,800 watts, you get a voltage drop in the wiring system. In addition to checking on the amount of voltage drop given by this overload, you inspect and feel all of the wiring, controls, terminals, etc. Just be careful not to get a very bad shock. A weak spot consists of a point at which there's so little copper or other metal to carry the load that an unusual voltage drop results at that point. With all the wiring heating up slightly under a heavy overload, the weak spot will heat up considerably. A terminal screw that needs tightening will become very hot, for example. If you are lucky, there'd be spluttering at a weak spot. There may be a burn-through that gives you an open circuit instead of a weak spot, and an open circuit is much easier to find than a mere flaw of weakness in wiring.

You've got to use good judgment in applying this voltmeter-and-overload method for determining if a wiring circuit has a weak spot, and locating the weak spot if there is one. Be careful; don't damage wiring or controls.

In the case of this particular installation, overloading the burner circuit using a 1,800 watt load (conveniently made up of three 600-watt cone-shaped screw-base electric heater elements bought for 50¢ each at a hardware store) revealed a wiring weak spot which it was gratifying to find.

The Culprit

There was a cheap little toggle switch with a red plate marked "Oil Burner Emergency Switch" at the top of the basement stairs in this house, and under the overload this switch started to give off smoke and fumes. Inspecting it brought out that its flexible contact blades were putting less pressure on their terminal point than they should. The blades and the metal they contacted were discolored and pitted, clearly as the result of the switch's having made uncertain contact for many months.

The plumber recalled that after he had installed the first oilburner on this job he'd had a service call. The basement-stairs switch was "on" all right when he arrived, and he'd spent an hour worrying about why he could not start the burner. Finally he started it by snapping the switch "off," then "on." If only he'd recognized then that the switch was defective and should be replaced!

Because the switch, flush-mounted in a plaster-and-lathe wall, was only a few inches from a steam riser that ran through the wall, we found a new, cool location for the new switch we installed. Heat from the steam riser might have affected the old switch, making it thermostatic and causing it to give a poor contact when cold and a good contact when hot, or vice versa. There was lots of dust in the old switch box, deposited there because of air circulation in the space caused by the heat from the steam pipe. The new switch was located where it would remain cool and clean.

"I believe that bum toggle switch caused all of the eventful behavior on the part of the four oilburners," I told the owner of the supply house.

"Imagine me having bad days and nights because of a 45¢ toggle switch!" he snorted. "I've gone through business deals and put up more than $45,000 without losing one wink of sleep, and now you tell me it's a 45¢ toggle switch that made me get gray hair!

"But tell me why you put the spring on the firing door, after you made the burner 100% safe by providing it with dual ignition, installing a solenoid oil valve, and locating the defect that drove me and the owner half crazy?"

"You told me specifically that the doors were not to be broken any more, and the nice, new, strong smopepipe was to stay up," I reminded him. "Before, the firing door could not blow open easily. Now the gentlest pressure in the combustion space will swing it open, and the spring will save it from breaking, and besides will close it again. We filed the latch on the door, to make it open easily. I haven't promised you a thing except this: No more broken doors or blown-down smokepipes. And it's only because you've got the spring on the big firing door that I can promise you that. You are lucky in one thing; the boiler you sold for this job surely has a nice, big firing door!"

"One more question. Do the four things you did on this job serve as well for every job giving this same trouble?" he asked. "What do we do if we ever get into this same trouble on another job?"

Headache Check-ups

In answer, I showed him the list of 16 check-up steps that accompany this article. Usually these take the headaches out of temperamental burner installations. However, there'll be another article on this same subject in a future issue of FUELOIL & OIL HEAT, and it will deal with a job that had many "Puff's" that couldn't be ended by these 16 steps.

Testing Boilers automatically

Describing a condensate measuring Apparatus for determining Efficiencies

by
L. H. Ventres*
and
H. R. Heiple*

An apparatus for measurement of boiler output in the determination of the efficiency of domestic, low-pressure steam boilers is described. In principle a fixed volume of condensate is alternately collected and returned to the boiler by a system of float-actuated switches which control the operation of magnetic valves in inlet and outlet lines through a relay. The number of operations and the temperature of the water returned to the boiler are automatically recorded. Data relating to the precision, stability, and durability of the device are presented and discussed. A typical application of the apparatus is given.

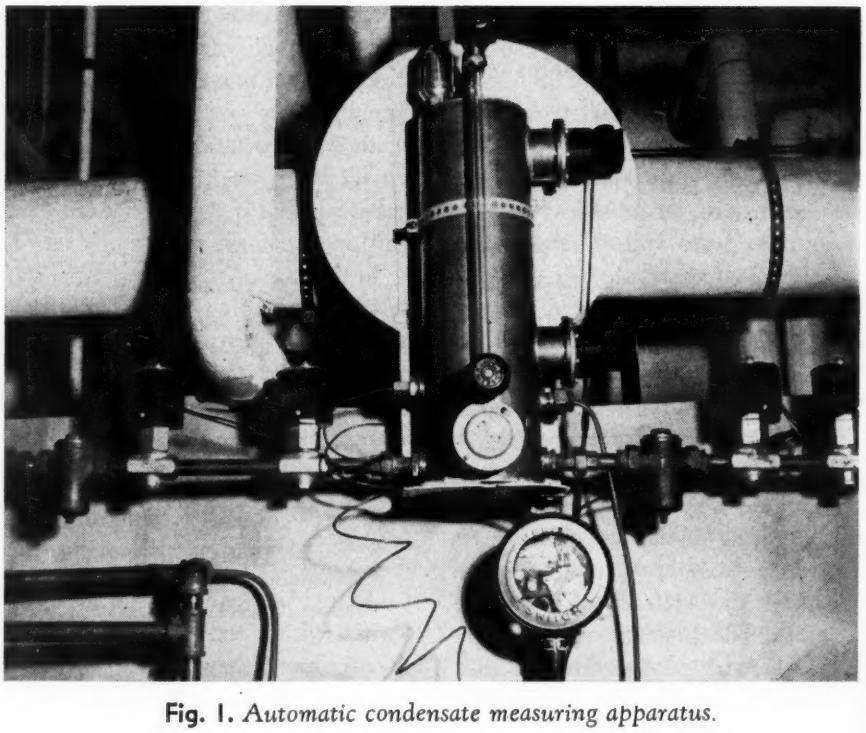


Fig. 1. *Automatic condensate measuring apparatus.*

THE DETERMINATION of the overall efficiency of boiler-burner units under existing test codes is a meticulous and time-consuming task, as all who have made these measurements know. The requirement that the water in the boiler be maintained at a constant level while continually withdrawing and condensing steam (which condensate is not returned to the boiler) demands the constant attention of one operator. The simultaneous observance of the feed water temperature, recording of the weights of the oil consumed and water condensed, and the initiation and cessation of collection of condensate and water carry-over at the separator at the beginning and end of a test require the services of additional operators. Consequently, in the investigation of the performance characteristics of small heating boilers it has been expedient for most laboratories to restrict the number of such tests to a minimum and the length of the tests to the shortest possible time period. Therefore most of the available data relating to the performance characteristics of domestic boilers and burners are based on continuous operation. These data, according to studies recently made in this laboratory, do not necessarily reflect the performance characteristics of boilers under the intermittent firing conditions of actual service.

In recognition of the dearth of reliable performance data along this line and the need to evaluate the effect each of the many variables encountered in the field may have on the overall efficiency of domestic boiler-burner installations test apparatus has been developed at the Shell Oil Company's Products Application Laboratory at Sewaren, New Jersey, by means of which boiler efficiency measurements can be made automatically, regardless of whether the boiler is being fired continuously or intermittently. Used in conjunction with an ordinary water-cooled steam condenser the apparatus measures the water evaporated from the boiler, records the quantity and temperature of the condensate, and returns the condensate to the boiler with little attention being required on the part of the operator. It has been successfully used in the Shell laboratory for approximately three years, and has proved to be an invaluable tool in the study of the various factors which influence boiler-burner efficiency under intermittent firing conditions. The data obtained in these studies are presently being analyzed and it is hoped they will form the basis of a future paper. Meanwhile, for the benefit of those laboratories which may be faced with similar problems, it was decided to publish a description of the apparatus at this time.

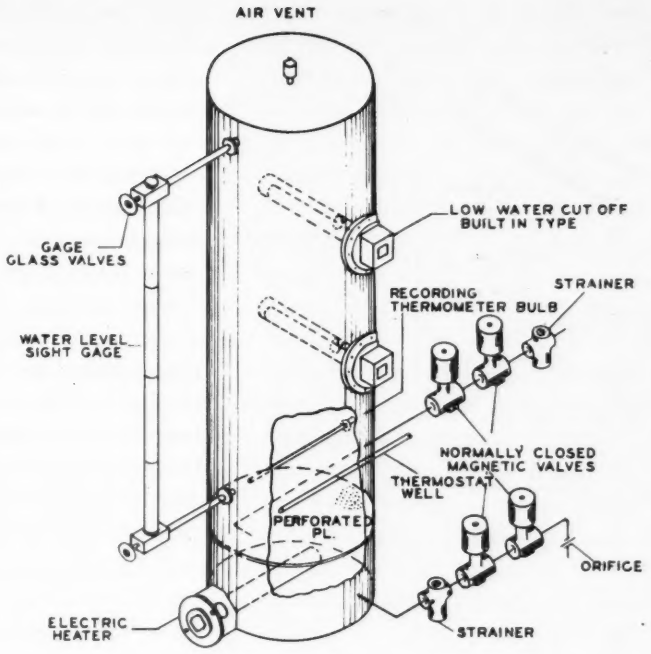
Description of Apparatus

The automatic condensate measuring apparatus is essentially a reservoir of known volume which periodically is filled with condensate from a condenser at the end of the steam main and empties this water into the boiler via the condensate return line. A counter and a recording thermometer give a record of the number of "dumps" and of the temperature of the water being returned to the boiler. One of these pieces of apparatus is

*Products Application Laboratory, Shell Oil Co., Sewaren, N. J.

shown in the photograph reproduced in Fig. 1.

Details of the construction are evident from study of Figure 2. The body of the apparatus is constructed from thin-walled brass tubing of suitable diameter and length to give the desired capacity; brass plates are soldered or brazed to the top and bottom of this section of tubing. Float-actuated switches (low-water cut-offs of the built-in type commonly used in domestic steam boilers) are built into one side of the tubing; the distance between the switches is such as will contain the desired volume of water. An air vent is inserted in the top of the unit (the tests are all made at atmospheric pressure) and a water gage in one side permits the observation of its operation. A perforated plate above the plane of the inlet and outlet openings assists in maintaining a uniform temperature in the contents of the reservoir. An electric heater and its controlling thermostat are enclosed in the reservoir to reduce to a minimum fluctuations in the temperature of water being returned to the boiler. An opening for the bulb of a recording thermometer is provided.

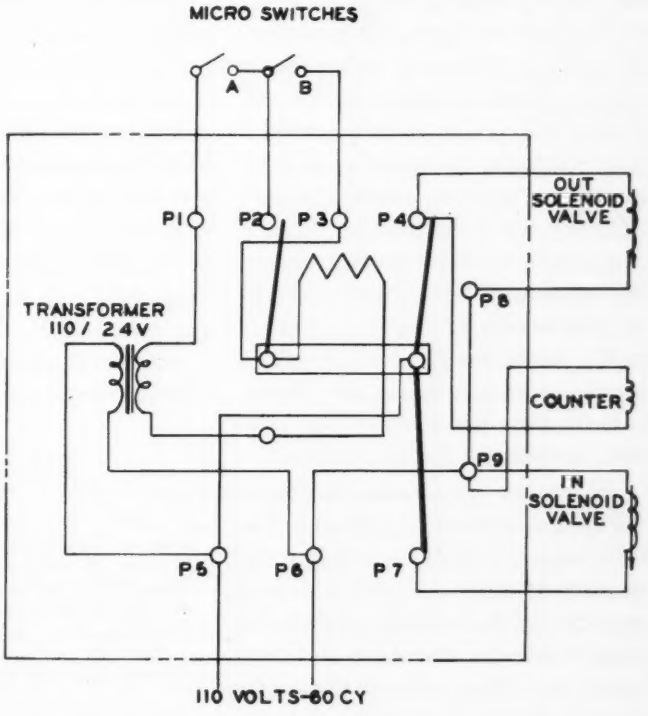


CONDENSATE MEASURING UNIT
FIGURE- 2

Influx and efflux of condensate to the reservoir are controlled by magnetic valves of the normally closed type. Two valves were used in series for each position. Magnetic valves are now available that would obviate the need for use of two valves in series, although use of strainers before the valves and frequent observation of the operation of the apparatus is still desirable to minimize the probability of obtaining fallacious data due to foreign particles being trapped on the valve seat and preventing closure of valve.

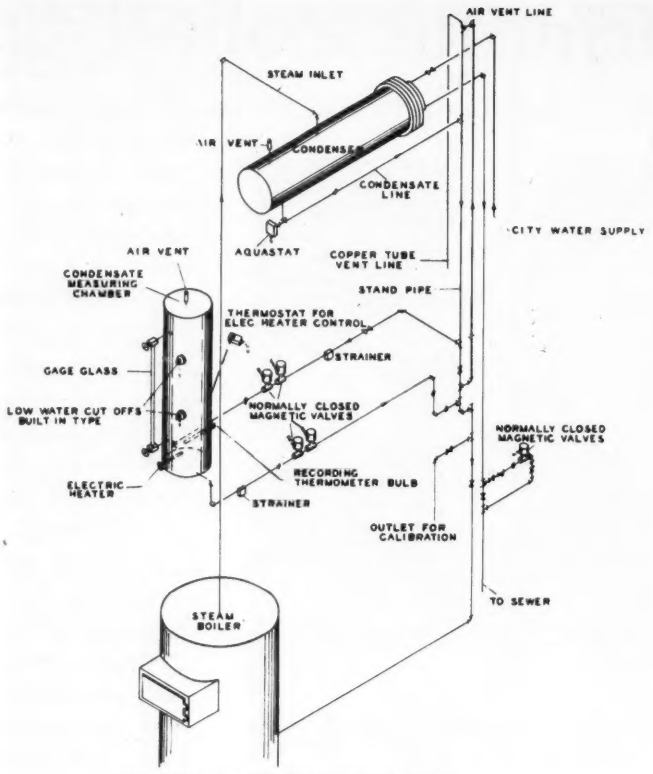
The apparatus is operated through the electrical circuit shown diagrammatically in Figure 3. The diagram represents conditions with the reservoir completely empty or at the very moment the device has completed a "dump"; both float-actuated switches are open, the outlet valve is de-energized (and therefore closed) and the inlet valve is open by virtue of the contact at P_7. As condensate flows into the reservoir the lower microswitch ("A" on the diagram) closes, but without observable results. When the liquid level rises sufficiently to close the upper microswitch "B" the relay is activated, circuits are closed at P_2 and P_4, while simultaneously the circuit at P_7 is broken. The outlet solenoid valve is energized (current also flows through the counter and records one more operation) and opens, whereas the inlet valve closes. Although microswitch "B" opens almost at once, the relay remains activated because of the shunt circuit through P_2. When the level of the condensate falls to the point where microswitch "A" opens, the relay falls out, contact is again made at P_7 and the cycle repeats. The relay used in conjunction with the apparatus provides low voltage for the microswitches, assuring long, trouble-free operation for these parts, which are designed and constructed for use with 110 volt current.

A typical piping arrangement incorporating the automatic condensate measuring device is presented in diagrammatic form in Figure 4. An aquastat is included in the return line from the condenser to regulate the flow of cooling water to the condenser and to prevent the flow of a quantity of very cold condensate to the reservoir when the boiler begins to make steam. Vent lines are provided for orderly flow of condensate and prevention of air-locks. It will be noted that the vertical pipe from the condenser to the condensate measuring



WIRING DIAGRAM
FOR
CONDENSATE MEASURING UNIT
FIGURE-3

device is labeled "standpipe." In order to prevent back-up of condensate into the condenser while the reservoir is emptying, some provision must be made for its collection; this can be done by installation of larger size pipe between the condenser and the device, or by use of a horizontal section of thin-walled tubing of suitable dimensions located below the condenser but above the reservoir. If the latter is used provision must be made to vent it.



AUTOMATIC CONDENSATE MEASURING DEVICE
FIGURE - 4

All of the water coming from the condenser is measured by the condensate measuring apparatus and accounted as boiler output. Not infrequently priming and/or foaming in the boiler results in liquid water, as mist or as "slugs," reaching the condenser and indicating higher boiler output (hence a higher overall efficiency) than is actually being realized. This condition can occur in conventional methods of measurement of efficiency and is not a source of error introduced by the condensate measuring apparatus. Such an error can be avoided usually by use of a separator in the steam main at the top of the steam header and by suitable precautions to keep boiler water free from rust, grease, and foreign materials.

Prior to use, the condensate measuring apparatus must be calibrated. The calibration is achieved by weighing the quantity of water delivered with each operation of the unit for a sufficiently large number of operations and computing an average value for the weight of each "dump." Experience has shown that recalibration of the unit is desirable if the apparatus is moved or otherwise subjected to unusual distributing influences.

Performance Characteristics

Precision: Calibration runs made on the condensate measuring apparatus in the laboratory in conjunction with a series of studies of boiler-burner efficiency produced data which were analyzed to determine its precision. The apparatus was moved a number of times, and, as noted in a preceding section, was recalibrated each time it was moved. Data secured in these calibrations and the results calculated therefrom are presented in Table I at the bottom of the page.

A note with regard to the factors affecting both the precision and the accuracy of the data is in order. The weights of condensate were obtained by draining the water into a tank resting on a platform scale of two hundred pound rated capacity. The beam was graduated in one-half ounce units; the sensitivity of the scale was of this order of magnitude. The weights were taken and recorded at the instant water ceased draining streamwise from the tailpipe (usually some water dripped into the tank between the time of weighing and the beginning of the next discharge, but the quantity was negligible). No provision was made to prevent vaporization of the collected water, but here, too, the error arising from this source was believed to be well within experimental error because of the short overall time between successive weighings (of the order of three minutes).

Examination of the data in Table I reveals several facts. First, there is a different factor (weight of water per "dump") for continuous and for intermittent operation, although in general, the difference between the two factors is less than one per cent of either value. It is further evident that disturbing the apparatus, as in changing its location, may result in a change in the factor; the maximum change from this cause was, however, less than three per cent. The mean value of the factor for any given calibration will not differ from the calculated mean value within the sensitivity of the measuring scale (0.032 lbs.) as much as one time in four, *i.e.*, the assumed mean value will correspond within experimental limit with the calibration value more frequently than three times in four. This order of precision is adequate for most efficiency measurements made on domestic steam boilers.

Durability: Two automatic con-

TABLE I

Precision Of Measurements Obtained With The Automatic Condensate Measuring Apparatus

(a) Continuous Operation					
Date of Calibration	2–6–50	11–15–50	5–2–51	8–17–51	2–20–52
Number of Measurements	40	11	27	33	10
Mean Quantity Discharged, lb.	6.99	6.93	6.83	6.92	6.80
Av. Deviation from Mean, lb.	.105	.049	.064	.047	.037
Probable Error of Single Determination, lb.	.082	.047	.047	.042	.033
Probable Error of Mean, lb.	.013	.015	.009	.007	.010
(b) Intermittent Operation					
Date of Calibration	2–8–50	11–15–50	2–8–51	5–2–51	8–31–51
Number of Measurements	31	12	39	24	18
Mean Quantity Discharged, lb.	6.94	6.98	6.84	6.86	6.83
Av. Deviation from Mean, lb.	.069	.047	.048	.029	.031
Probable Error of Single Determination, lb.	.058	.040	.040	.024	.026
Probable Error of Mean, lb.	.011	.011	.006	.005	.006

densate measuring apparatus units have been constructed and used in the laboratory, the one of six-inch diameter thin-walled brass tubing (data presented in Table I were secured on this unit), the other of four-inch iron pipe. The second of the two has never been moved or subjected to disturbances. Examination of the data secured with this piece of apparatus should give an indication of the stability of the apparatus with respect to changes in calibration constants and with respect to the life of the component parts of unit. At the time this paper was written the float-actuated switches had made approximately 65,000 operations, the magnetic valves (which had replaced the original valves due to a change in design) about 35,000 operations. Over a period of approximately two years, in which interval the float-actuated switches and the magnetic valves had undergone about 63,000 and 33,000 operations respectively, the calibration values had changed by less than one-half ounce, the smallest difference in weight that could be measured on the scales used in the calibration. These results demonstrate that the apparatus is sufficiently stable to be used over a long period of time without break-down and without re-calibration provided it is not moved or subjected to unusual disturbances.

Failure of one of the float-activated switches to operate would result in cycling of the oil-burner on pressure. The burner would shut off on low-water cut-off if the combined capacity of the standpipe and condenser (also of the reservoir, if the upper float-activated switch failed) reduced the water level in the boiler sufficiently. Leakage at the magnetic valves would result in erroneous data; the results in any case would be lower than the correct value. Neglecting the loss of data for a few tests failure of any of the components of the automatic condensate measuring apparatus would be of no consequence.

Application: The automatic condensate measuring apparatus was designed and has been used for the measurement of overall efficiencies of boiler-burner units as steam generators. The over-all layout of equipment for such measurements is shown schematically in Figure 4.

This application of the apparatus is aptly illustrated by its use in a series of tests made to determine the effect of ratio of on-to-off time on the efficiency of a burner-boiler system; the efficiency is based on quantity of steam delivered to the heat exchangers (radiators or convectors). The burner was operated by means of a timer on a number of cycles varying in on-to-off time with constant on-time of thirty minutes per cycle. Since the total time per cycle must necessarily be a factor of twenty-four hours (the period of one revolution of the timer dial) the cycles chosen were 30 minutes on—30 minutes off, 30 minutes on—90 minutes off, 30 minutes on—150 minutes off, and 30 minutes on—210 minutes off, corresponding to 24, 12, 8 and 6 cycles per twenty-four hours. In addition, one run was made on a continuous basis. The results obtained in this series of tests are presented in Table II. In order to obtain more accurate data the last two of the above cycles were run over two- and three-day periods, twenty-four hours per day. The 30 minute on—210 minute off run, in fact, was made over a week-end; during sixty-three consecutive hours of the seventy-two-hour test period no one was in the laboratory to attend to the test. Without the condensate measuring apparatus the data obtained in these runs would have been practically unattainable. Even though many tests have been continued for relatively long periods without laboratory personnel in attendance, only a few per cent of these tests have been lost, and in most of these cases the cause was a factor other than failure of the condensate measuring apparatus to perform properly.

The efficiencies in Table II were calculated by use of the equation

$$E = \frac{100\ kNQ}{FC}$$

where

E = Efficiency, per cent
k = Factor, pounds of condensate per "dump"
N = Number of dumps
Q = Heat recovery, Btu per pound of condensate
F = Quantity of fuel burned, pounds
C = Net heat of combustion of fuel, Btu per pound

Conclusions: An apparatus for measurement of condensate in determination of the efficiency of domestic steam boilers has been constructed and tested. The principal use, *i.e.*, alternately collecting and emptying into the boiler a fixed volume of condensate of known temperature and recording the number of operations, offers a sound solution to the problem of measuring boiler output. Use of float-actuated switches and magnetic valves controlled through a relay is a suitable method of reducing the principle to practice. An apparatus incorporating these components in its structure has been tested and found satisfactory on all counts.

TABLE II

Variation in Efficiency of a Typical Oil-Burning Domestic Steam Boiler with Change in Ratio of On-to-Off Time at Constant On-Time Per Cycle

			OPERATING CONDITIONS[1]				DATA			
Time On : Time Off Minutes	*Duration of Test., Hrs.*	*Laboratory Closed During Test. Hrs.*	*Stack Temp. °F.*	*CO_2 %*	*Steam Temp. °F.*	*Condensate Temperature °F.*	*Oil[2] Consumed lb. (F)*	*Water[3] "Dumps" (N)*	*Heat Recovery Btu/lb. (Q)*	*Efficiency*
Continuous	7¼	0	640	12.0	213	175	64.2	132.9	1008	73.2
30 : 30	24	15	640	12.1	213	161	108.4	198.9	1022	68.7
30 : 90	24	15	630	12.0	213	162	55.3	96.4	1021	62.3
30 : 150	48	30	640	12.0	213	165	73.6	117.8	1018	57.1
30 : 210	72	63	630	12.0	213	161	84.4	124.5	1022	53.0

[1] Firing Rate 1.27 gallons per hour.
[2] Net heat of combustion (C), 19,500 Btu/lb.
[3] Factor (k), 6.84 lbs./dump.

Bountiful Harvest

Oil Progress Week Speech prepared for the local Dealer to adapt to his own Community

This is a pattern speech, prepared by the Oil Industry Information Committee for use preceding and during Oil Progress Week, October 12 through 18. Its general theme, however, lends itself to adaptation for use during any of the fall months and, with but slight revision, at almost any time during the year. It is recommended for use by the local fueloil or oilheating dealer who might be called upon to address club luncheons, school or similar organizations.

Briefly, the speech traces the close relationship that exists between agriculture, industry and the vast quantities of oil which power and lubricate labor-saving machinery in farms, factories and homes. It concludes with an analysis of the industry's 4-billion dollar capital expenditures program for 1952 and enables the dealer to relate this overall program and other activities to his own local operation.

The speech has been prepared so that the oilheating dealer can inject regional and local references to adapt the theme to local conditions and to incorporate specific examples how the petroleum products he handles contribute to better services and better living for American families.

THIS IS Oil Progress Week in (Name of Community), ladies and gentlemen, and it is also harvest time. It is the period when oil men and women in cities, towns and villages all over the United States make annual reports on their progress to millions of customers and friends. And it is the time when farmers begin to take inventory of their accomplishments for the year. A relationship exists between the bountiful crops grown upon the surface of the good earth and the harvest of oil drawn from beneath its surface.

One simple fact shows how close that relationship is: If plenty of oil were not available to power labor-saving agricultural machines such as tractors and trucks, six million more farmers and farm hands would be needed to supply us with the food and fibres we Americans consume. You can well imagine what dire things would happen to our factories, our transportation systems, our entire economy in fact, if that much manpower had to be taken away from jobs in commerce and industry.

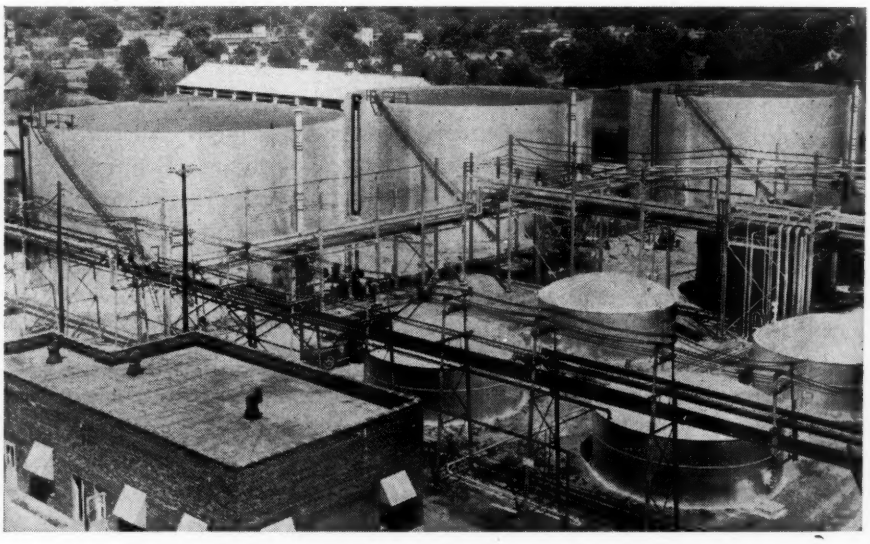
But we do have a bountiful harvest of oil, just as we have plentiful crops, and for the same basic reason: American oil men, like American farmers, have the knack of making two blades of grass grow where one grew before. Those oil men have the know-how that provides this country with the two and a half billion barrels of petroleum products needed every year to keep our nation's economy in balance and our defenses strong.

Two and a half billion barrels! . . . You know, a quantity like that is just too big to mean anything to anybody! It is what statisticians call an "omnibus figure." It sounds impressive but it can't be grasped by the human mind. (Some psychologists say, you know, that no one can visualize a figure greater than the number of his fingers and toes. Others have even hinted that the only figure a man really can appreciate is in a musical comedy chorus line or on a bathing beach!)

When I got to fretting about how to stay away from omnibus figures while talking about the oil business my wife gave me what I consider an excellent slant. She handed me a thimble and needled me with this remark:

"I know it will ruin your day," she said, "but why don't you forget about the thousands of ways in which millions of people use billions of barrels of oil and trillions of cubic feet of natural gas? Just tell the folks how much benefit they get out of one thimbleful of petroleum."

That was a real challenge, particularly to a man like me who handles oil in bulk. But I did some home work. And I came up with a few examples that may interest you. For instance:



One thimbleful — approximately one-fifth of an ounce—of fueloil in the average basement burner, will keep your home cozy and warm for 22 seconds. Doesn't sound like much, you're thinking? Well, just go out and see how long it would take you to cut enough wood to do a similar job.

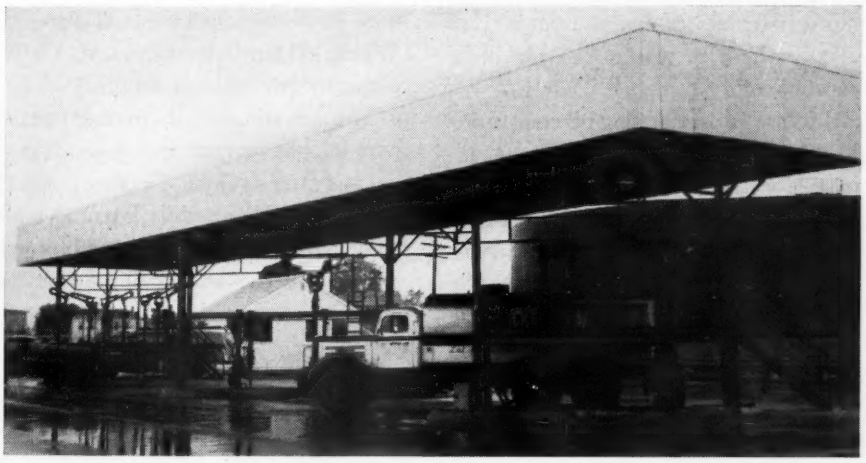
One thimbleful of gasoline will drive your car, fully loaded with five passengers and the pup, a distance of 160 feet on its way to church, to a show or on a shopping trip. Did you ever try to push a stalled car that distance?

And one thimbleful of diesel locomotive fuel, costing less than a tenth of a cent, will haul a ton of freight one full mile! That is a stopper, isn't it?

Now I could go on for an hour telling you how a mere thimbleful of pe-

troleum, if made into medicine, might save a life; how, if combined with the proper chemicals, it might be turned into synthetic rubber, shimmering fabric, paint, fertilizer or even, believe it or not, into perfume. But you get my point: Whether it drives a railway locomotive, a motor car or an oil-burner; whether it is measured in fractions of ounces or billion of barrels, oil plays a vital role in enabling us all to reap bountiful harvests . . . harvests not only of farm products but of manufactured goods as well.

The progressive oil business isn't concerned with today's needs alone, however. It also is planning the crops it will harvest for the America of the future. To give you an idea of the problems the nation's thousands of oil companies are facing, let me summarize just a few estimates of this country's growth made recently by the President's Materials Policy Commission in Washington.



If the United States is to grow as it has in the past—and the Commission sees no reason why it shouldn't, barring a world-wide atomic war—the following things will have happened by 1975:

The U. S. working force will total 82 million, against 62 million in 1950.

Farm production will be 40 per cent greater than now.

Total national output—the gross product of all the work we Americans do, in terms of 1939 dollars—will reach 315 billion dollars in 1975 compared with 154 billion in 1950.

The demand for energy in all forms and petroleum is our largest single source of heat and power today—will double by 1975.

Oil requirements will be 110 per cent higher than in 1950.

In practically every field, the Commission predicts after most careful study of all evidence available, the United States will be just about twice as prosperous in 1975 as it is now. Our living standards—and our need for petroleum and other products—will soar to heights that are hard to imagine.

Can oil men meet this challenge? Can they supply us with twice as much heat and power in 1975? I'm sure they can. Since the first post-war year, U. S. petroleum production has increased 29 per cent and has kept pace with an unprecedented growth in demand. Yet, despite our skyrocketing liquid fuel requirements, our proved reserves of crude oil and natural gas liquids—deposits already located underground and waiting to be recovered—have increased even more rapidly. Today they stand at the record level of . . . but that's another omnibus figure and I'm trying to avoid them. When I retire I may get around to figuring out how many thousand quintillion times a thimble could be refilled from America's proved reserves.

There is every reason for confidence that the present rate of growth in petroleum supplies and in underground reserves can be maintained for many years to come. Just how much oil remains underground is something no one really knows. We only know that vast areas of the United States have not yet been explored. If and when need arises, plenty of liquid fuels can be made from coal and shale. In fact, they could be made that way today if it were not more practical and economical to get them from crude oil.

Why am I so confident that we always will have plentiful supplies, barring wars, transportation tie-ups and other Acts of God. There are three main reasons for confidence: First, American know-how; second, the intense and healthy competition that exists among oil companies; and, third, the long-standing policy those companies have of plowing back large percentages of their earnings into expanded facilities.

As for know-how, let me point out that Americans drilled the first commercially successful oil well back in 1859. America was the first country to develop a large scale oil industry. Americans always have held the edge in developing better drilling, refining, transporting, conservation, research and marketing and equipment.

Americans always have been able to meet all of their country's needs for oil, both in peace and in war. They have done so because the oil industry has remained free from most of the government restrictions which hamstring so many foreign oil companies; because, from the beginning, theirs has been, and is, a highly competitive industry. Let me tell you a story to show what I mean:

100% Recovery

Several months ago a so-called government oil expert from one of the dictator countries came over here. He wanted to find out why the underground reserves of his native land had dwindled toward the vanishing point in recent years.

He was given a tour of the great Texas fields. He was shown how American wells are scientifically spaced so the fewest possible number taps the greatest possible amount of oil. Technicians explained patiently how gas and water are pumped back into the ground to maintain the pressure so that wells will flow at the rate which, in the long run, brings up the greatest amount of oil.

"In the old days," the Americans explained, "we thought we were doing well if we got 20 per cent of the available oil out of a field. Now, through such conservation methods, we recover as much as 80 per cent of it.

"Ridiculous," said the "expert" at last. "In my country we get 100 per cent of the oil out of the ground."

"How on earth do you do that?" he was asked. "That's impossible!"

"Simple," said the visitor. "The government just drills as many wells as it can as fast as it can and lets them flow wide open. When they run dry we know there's no more oil down there."

He couldn't be made to understand that his country was wasting its natural resources. It was behaving like the foolish farmer who neglected to fertilize his fields, plowed his hillsides until they were covered with gullies, raised mongrel stock and woke up one day to find that his rich topsoil was gone and that he was bankrupt.

Free competitive Enterprise

Now don't take my word for this! To be sure I am an oil man. I think the continued progress of my industry is due to the fact that it operates under our magnificent system of free competitive enterprise. Listen, instead to this recent article, entitled "Oil Competition." It was written by Ralph Hendershot, Financial Editor of the *New York World-Telegram and Sun* and reads:

"Private investors are operating in direct competition with major oil companies today in the drilling and development of oil properties in both the United States and Canada, according to N. B. Gerber, consultant and broker. This unique situation exists in none of our other important industries.

"Moreover, Mr. Gerber found on a tour he has just completed of all the major fields in both countries that independent drilling firms are putting down most of the wells in these fields. These firms, he said, operate under contract not only with individuals but with big and small corporations as well.

"The fact that no one can ever have a monopoly on the oil resources of the nation accounts in large part for this strange competitive situation, according to this authority. Our tax laws, which provide an attractive leverage to oil producers, also play an important part in the development, he said."

Yes, competition is the keystone of progress. It has encouraged the drilling of thousands of oil wells and the discovery of hundreds of new fields. It is responsible for the development of up-to-the-minute conservation methods.

Competition among companies has created the vast research laboratories that have developed endless new and improved products for our use. A case in point is that two gallons of today's improved gasoline do as much work for us as three gallons used to do back in 1925.

And competition has kept prices down, too. You pay as much as a dollar a gallon for mediocre gasoline in many foreign countries where oil is a government monopoly. In America, however, the cost of a gallon of gasoline, minus federal, state and sometimes municipal taxes, of course, remains just about where it was a quarter of a century ago.

Intense rivalry among oil companies has been largely responsible, moreover, for the sound financial policies they pursue. Those policies provide that most of their earnings be put back into the business so it can grow hand-in-hand with the nation. This year, in fact, the oil industry is spending more of its own money than in any other twelve-month period in history to make sure that civilians and their military defenders have a bountiful supply of products.

Capital Expenditures

A recent survey indicates that capital expenditures scheduled for 1952 will exceed four billion dollars. That boosts the industry's total for the seven post-war years to more than 19 billion dollars. . . . There I go again with an omnibus figure! Let me say, instead, that in seven years oil companies have made capital expenditures nearly half as large as last year's Federal Budget. That is a record for any single industry over so short a period.

That money is being poured into new wells, refineries, pipelines, tankers and laboratories. It is going into fertilizer and chemical plants, marketing facilities and many other new, modernized or expanded operations. It is being spent because the American people are the greatest consumers of petroleum in the whole world. Why, our motor vehicles alone consume about 39 billion gallons of gasoline a year and our home oilburners, industry, transport, farms and so on take . . .

But those are omnibus figures again! Instead of quoting them, let me bring home to you what this expansion program means to (name of community). Let me tell you just a few of the things local oil men are doing to improve their facilities and to bring you better products and services at reasonable prices. (Here mention the increase in bulk storage capacity or other local developments that illustrate this.)

But there's still a better way to find out what your local oil men are doing to make sure that you continue to enjoy the good things of life, now and in the future. That is for you to attend as many as possible of the special events they have arranged for Oil Progress Week. (Here discuss local OPW plans to any desired length.)

You are all cordially invited to take part in these events. Bring your families and friends along. I'm sure you will have a good time while learning a lot more about this fascinating oil business and about the bountiful harvests it helps make possible.

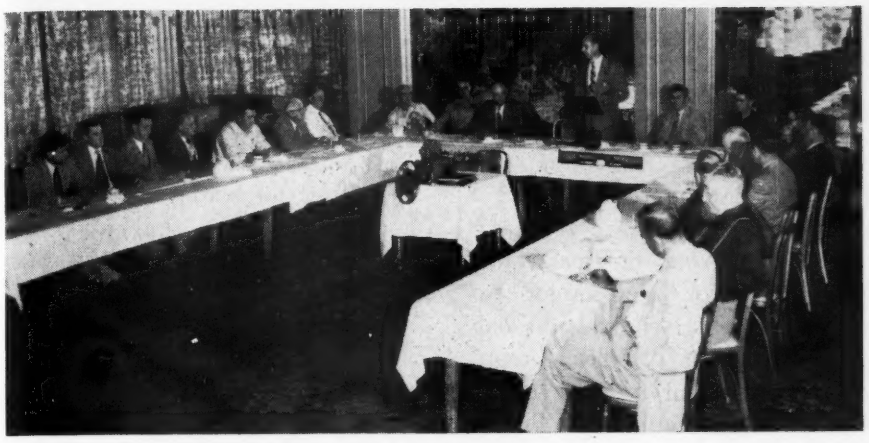
❖

Industry prepares for big Oil Progress Week

OIL PROGRESS WEEK 1952, October 12 to 18, will be marked by events and activities that all add up to "bigger and better than ever," according to the committees that are formulating plans. As in previous years the biggest event will be the October 14 luncheon in the Waldorf-Astoria Hotel, New York City, where more than 1,500 industry personnel and guests are expected to be present.

P. C. Spencer, president, Sinclair Oil Corp., is to be the main speaker at the luncheon, at which educators, editors, community leaders and officials will make up a large portion of the audience.

Typical of activities that are being planned are some of the events the New York-New Jersey District of the Oil Industry Information Committee reports are to be held in its area. Community leader events will take place in Poughkeepsie, Utica, Albany, Syracuse, Rochester and Buffalo in New York; Trenton, Camden, Atlan-



D. B. Porter, *marketing assistant for the Phillips Petroleum Co., Omaha, explains Oil Progress Week promotional materials at an Oil Industry Information Committee area meeting in Grand Island, Neb. Attending the meeting were oil jobbers, dealers and major company representatives from seven Nebraska committees. The OIIC movie, "2 equals 3" was shown, Oil Progress Week materials were examined and plans were made for parades in Grand Island and Kearney. Co-chairmen of the meeting were Fred Opocensky, Texas Co., Grand Island; and A. L. Finstrom, Mid-Continent Petroleum Corp., Kearney.*

tic City and Bayonne in New Jersey, along with a New Jersey OIIC luncheon in Newark on October 15. Many county committees have been working during the summer months arranging for community leader luncheons or dinners, particularly in communities of about 5,000 population, to be sponsored jointly by industry men with local chambers of commerce or service clubs.

In Milwaukee the Oil Progress Week Committee, cooperating with the Wisconsin Oil-Heat Association, the Petroleum Retailers' Association and the Milwaukee's Oil Men's Club is holding a dealer's rally in the Antlers Ballroom on Tuesday evening, October 14. The purpose is to bring together salesmen, drivers, office personnel and other employees for an evening of constructive thinking on the subject, "Your progress and oil progress go hand in hand," to know and understand the industry's responsibilities to the public. Movies, vaudeville and a serious address have been lined up for the program.

In addition, the Committee is running a series of newspaper advertisements telling the story of "How much Milwaukee is dependent on the petroleum industry."

In Kilgore, Texas, the contributions oil has made to east Texas will be celebrated in a three-day Jube-OIL-Lee which starts on October 14. Events will include the coronation of an Oil Queen, tours of oil installations, old-timers' reunion and a parade. W. S. Morris, manager of East Texas Salt Water Disposal Co., is general chairman.

Release of a new motion picture, "Crossroads, U.S.A.," has been announced by the Oil Industry Information Committee in time for showings during Oil Progress Week. Well-known Hollywood personalities are featured in the picture, a dramatic presentation that emphasizes the freedom and enterprise which have made this country a land of opportunity.

"Crossroads" was produced in Hollywood, from a story written especially for OIIC by Joseph Moncure March and Brown Holmes. Film Counselor's, Inc., New York, and the Committee's field sub-committee, headed by P. C. Humphrey, Texas Co., supervised production of the 25-minute film.

These are but a few of the activities scheduled for Oil Progress Week, which range all the way from the huge New York luncheon down to the independent dealer who will sponsor an open house celebration in his own community or some other individual activity that will highlight the contribution that oil has made to the American way of life.

Pacific Northwest Farmers indicate buying Intentions

A SURVEY of the 194,107 farms in the states of Washington, Oregon, Idaho and Utah has been conducted by the Pacific Northwest Farm Quad, Spokane, Wash., the four "Farmer" magazines published in these states.

A total of 5,028 farms in all states, 2.6% of the 194,107, indicated they intended to purchase coal or wood cooking stoves this year, while 11,270, 5.8% of the total, said they were going to buy furnaces. Almost 42% of those who plan to buy furnaces expressed preference for a particular brand, but the survey points out that the number of farms reporting "will buy" was inadequate to indicate reliably the comparative standing of brands or makes. Actual number of preferences received were: Lennox, 13; Sears, Roebuck, 9; Montag, 7; Montgomery Ward, 6; American Standard, 4; Coleman, 4; G-E, 4; H. C. Little, 3; Holland, 3; Ashley, 2; Delco, 2; Iron Fireman, 2; Oil-O-Matic, 2; Spark, 2; 17 brands received less than 1% preference.

When queried if they would buy oil heaters, 7,206 farms, 3.7% of the total, answered they would and, of these, 74% expressed a brand preference. Again these preferences were not adequate enough to indicate reliably the comparative standing of brands or makes, but actual number of preferences received were: Spark, 41; Coleman, 17; Duotherm, 5; Quaker, 5; Siegler, 5; Sears, Roebuck, 4; Montgomery Ward, 2; Norge, 2; Super Flame, 2; eight brands received less than 1% preference.

❖

W. T. Lynde has been appointed senior district representative for the Gulf-Southwest District of the Oil Industry Information Committee, American Petroleum Institute, New York, N. Y. Lynde succeeds Don Agnew. Lynde joined the OIIC in Dallas in 1950 and has been working on the industry's public relations program, especially in the states of Texas and New Mexico. He is a former newspaper man, public relations and publicity director.

Range Oil Sales By Grades and States U. S. Bureau of Mines

(Thousands of 42-gallon barrels)

NEW ENGLAND STATES

	Kero-sene	No.1 Fuel	1951 Total	1950 Total
Massachusetts	12615	864	13479	13505
Connecticut	4923	328	5251	5238
Rhode Island	2860	168	3028	3058
Maine	2965	147	3112	3093
N.Hampshire	1432	93	1525	1636
Vermont	831	23	854	835
	25626	1623	27249	27365

MIDDLE ATLANTIC STATES

	Kero-sene	No.1 Fuel	1951 Total	1950 Total
New York	9884	605	10489	10386
New Jersey	4931	550	5481	5426
Pennsylvania	2627	310	2937	2838
Maryland	1465	24	1489	1336
Delaware	634	30	664	627
Dist. of Col.	227	5	232	254
	19768	1524	21292	20867

MIDDLE WESTERN STATES

	Kero-sene	No.1 Fuel	1951 Total	1950 Total
Illinois	3777	3159	6936	6184
Michigan	2917	1750	4667	3979
Wisconsin	1650	1669	3319	2526
Indiana	2537	860	3397	2516
Minnesota	1544	1122	2666	2454
Missouri	1622	826	2448	2308
Iowa	1714	788	2502	2188
Ohio	1660	466	2126	1926
Nebraska	608	222	830	723
S. Dakota	671	135	806	641
Kansas	745	161	906	592
N. Dakota	613	48	661	534
	20058	11206	31264	26571

WESTERN STATES

	Kero-sene	No.1 Fuel	1951 Total	1950 Total
Colorado	187	112	299	259
Montana	174	112	286	220
New Mexico	249	12	261	175
California	74	..	74	116
Idaho	29	54	83	80
Wyoming	76	11	87	78
Utah	16	29	45	42
Oregon	10	..	10	12
Washington	6	..	6	7
Arizona	2	..	2	6
Nevada	1	..	1	1
	824	330	1154	996

SOUTHERN STATES

	Kero-sene	No.1 Fuel	1951 Total	1950 Total
N. Carolina	4363	95	4458	3872
Texas	2301	525	2826	2064
S. Carolina	2014	61	2075	2022
Georgia	1810	88	1898	1797
Virginia	1822	104	1926	1723
Florida	1729	71	1800	1601
Tennessee	1508	60	1568	1370
Arkansas	949	101	1050	964
Oklahoma	910	102	1012	923
Louisiana	662	85	747	701
Alabama	738	26	764	580
Kentucky	704	209	913	558
Mississippi	511	13	524	453
W. Virginia	326	1	327	235
	20347	1541	21888	18863

TOTAL UNITED STATES

	Kero-sene	No.1 Fuel	1951 Total	1950 Total
U. S. Total	86623	16224	102847	94662

1951 fueloil Consumption Up, reports U. S. Bureau of Mines

SALES OF distillate fueloil showed an important increase in 1951 as it did in 1950, but the market for residual grades of fueloil and for kerosene fell off in 1951 and was only slightly above the 1950 total, according to a sales survey made by the Petroleum and Natural Gas Branch, Fuels and Explosives Div., Bureau of Mines, U. S. Dept. of Interior.

The study showed a significant increase in exports of light and heavy fueloils and kerosene in 1951 as compared with foreign requirements in 1950, reflecting largely the closing of the Abadan refinery in Iran and the necessary realignment of world supply sources for liquid fuels. Overseas shipments of both distillate and residual fueloils "sky-rocketed" up to gains of 79% over 1950 while the kerosene shipped in foreign trade in 1951 was more than triple the 1950 quantity. The Bureau notes that the unusually large exports of fueloil and kerosene reported for 1951 have mounted to even higher levels during the first six months of 1952.

A 10% increase in domestic burners in use over the 1950 number and with practically no change in the weather or the need for heating as measured by degree days, sales of light fueloil (Grades 1-4) for space heating were up 13% over 1950. This gain in demand compared with a 16% increase in 1950, when burners in use were 15% above 1949 installations and the weather was 8% colder. The light fueloil sold for heating accounted for approximately 56% of the total distillate fueloil sales in both 1950 and 1951.

Stepped-up military activities during all of 1951 are reflected in a 29% rise in the purchase of light fueloils by the armed services.

Sales of residual fueloils showed only a net over-all increase of 2% in 1951 over 1950, as deliveries to railroads and to the gas and electric public utilities were down sharply.

Considerably colder weather and an 8% increase in commercial burners in use were factors which brought about a 20% expansion in sales of heavy heating oils in 1950. There was a similar percentage gain in the number of commercial burners in use in 1951, but practically no change in the coldness of the weather as measured by degree days, so consequently sales of heavy grades of fueloil for heating purposes showed only a gain of 5%.

Sales of kerosene for various uses showed an increase of 4% in 1951 over 1950 demand compared with a 15% gain in 1950 over 1949. The weather in 1950 was considerably cooler than in 1949, which was an important factor in the increase in kerosene demand. The fact that still greater requirements for heating, as measured by degree days, was not repeated in 1951, was probably the more important reason for the lower per cent of gain in kerosene requirements for the year.

Fueloil Sales 1947-1951 by Uses

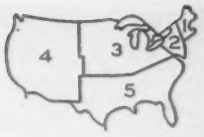
(In Millions of Barrels)

USES	DISTILLATE 1947	1948	1949	1950	1951	RESIDUAL 1947	1948	1949	1950	1951
Heating	178	200	190	221	249	56	59	60	73	76
No. 1 sold as range	12	14	12	15	16	..	..	..	..	..
Railroads	24	31	39	49	60	98	90	63	61	55
Vessels	14	15	13	12	14	102	96	89	93	107
Utilities	14	15	13	13	10	61	57	80	93	71
Industrial	24	30	26	37	42	115	118	123	148	157
Oil Company Fuel	2	4	4	6	9	63	57	52	53	54
Armed Forces	5	9	6	7	8	19	25	23	28	38
All other uses	24	25	26	35	40	7	7	4	5	5
Total United States	297	343	329	395	448	521	509	494	554	487
Exports	30	21	12	13	23	11	13	13	16	29
Grand Total	327	364	341	408*	471	532	522	507	570	516

*Revised.

Heating Oil Sales
By Grades and States
U. S. Bureau of Mines

(Thousands of 42-gallon barrels)



1951				Total Distillate		NEW ENGLAND STATES	1951		Total Residium		Grand Total	
No. 1	No. 2	No. 3	No. 4	1951	1950	1	No. 5	No. 6	1951	1950	1951	1950
1,120	21,287	274	8	22,689	17,932	Massachusetts	1,715	5,891	7,606	7,731	30,295	25,663
971	8,165	77	102	9,315	8,645	Connecticut	1,971	3,060	5,031	5,146	14,346	13,791
158	3,209	10	3	3,380	3,188	Rhode Island	372	2,234	2,606	2,633	5,986	5,821
433	2,753	..	1	3,187	2,738	Maine	66	194	260	287	3,447	3,025
172	2,544	11	1	2,728	2,379	New Hampshire	29	162	191	251	2,919	2,630
72	815	8	1	896	847	Vermont	7	62	69	84	965	931
2,926	38,773	380	116	42,195	35,729		4,160	11,603	15,763	16,132	57,958	51,861
						MID-ATLANTIC STATES						
No. 1	No. 2	No. 3	No. 4	1951	1950	2	No. 5	No. 6	1951	1950	1951	1950
2,423	37,091	1,210	718	41,442	38,483	New York	2,789	12,666	15,455	14,638	56,897	53,121
1,344	18,804	1,114	953	22,215	21,472	New Jersey	2,320	4,788	7,108	7,332	29,323	28,804
1,744	17,020	937	95	19,796	15,984	Pennsylvania	1,574	2,243	3,817	3,924	19,801	19,908
690	7,827	25	39	8,581	7,155	Maryland	287	1,558	1,845	1,327	9,000	8,482
141	2,328	..	2	2,471	1,990	Dist. of Col.	251	1,006	1,257	888	3,247	2,878
181	1,154	..	..	1,335	1,046	Delaware	117	115	232	230	1,278	1,276
6,523	84,224	3,286	1,807	95,840	86,130		7,338	22,376	29,714	28,339	119,546	114,469
						MIDDLE WESTERN STATES						
No. 1	No. 2	No. 3	No. 4	1951	1950	3	No. 5	No. 6	1951	1950	1951	1950
2,297	8,966	2,954	42	14,259	13,223	Illinois	3,393	3,297	6,690	6,037	29,949	19,260
2,633	7,864	782	83	11,362	9,834	Michigan	1,104	1,815	2,919	2,580	14,281	12,414
2,139	6,809	673	76	9,697	9,082	Minnesota	449	349	798	791	10,495	9,873
1,397	5,178	674	29	7,278	6,687	Wisconsin	512	299	811	680	8,089	7,367
2,703	3,373	203	573	6,852	5,384	Ohio	543	323	866	857	7,718	6,241
1,630	3,003	973	21	5,627	4,682	Indiana	524	551	1,075	1,045	6,702	5,727
2,046	3,030	151	2	5,229	4,601	Iowa	392	168	560	480	5,789	5,081
956	2,559	393	7	3,915	3,768	Missouri	1,710	644	2,354	1,729	6,269	5,497
759	1,064	291	6	2,120	2,028	Nebraska	149	52	201	224	2,321	2,252
261	895	52	2	1,210	1,055	North Dakota	4	28	32	6	1,242	1,061
506	829	64	3	1,302	1,053	South Dakota	18	71	89	67	1,391	1,120
583	585	25	4	1,197	843	Kansas	477	199	676	691	1,873	1,534
17,810	44,055	7,235	848	70,048	62,240		9,275	7,796	17,071	15,187	87,119	77,427
						WESTERN STATES						
No. 1	No. 2	No. 3	No. 4	1951	1950	4	No. 5	No. 6	1951	1950	1951	1950
5,288	..	5,308	..	10,596	9,816	Washington	2,261	773	3,034	2,964	13,630	12,780
2,573	..	3,104	..	5,677	5,375	Oregon	1,404	177	1,581	1,505	7,258	6,880
1,860	..	3,005	..	4,865	5,113	California	2,049	1,187	3,236	3,279	8,101	8,392
672	480	152	7	1,311	982	Idaho	365	10	375	132	1,686	1,114
286	264	208	..	758	660	Montana	51	78	129	134	887	794
298	345	192	..	835	656	Colorado	83	44	127	125	962	781
264	..	353	..	617	541	Nevada	74	34	108	120	825	661
190	150	248	52	640	523	Utah	108	111	219	122	859	645
198	..	258	..	456	454	Arizona	5	..	5	11	461	465
61	179	49	3	292	257	Wyoming	37	3	40	38	332	295
38	65	2	..	105	102	New Mexico	2	22	24	3	129	105
11,728	1,483	12,879	62	26,152	24,479		6,439	2,439	8,878	8,433	35,130	32,912
						SOUTHERN STATES						
No. 1	No. 2	No. 3	No. 4	1951	1950	5	No. 5	No. 6	1951	1950	1951	1950
1,073	3,896	..	10	4,979	4,058	Virginia	167	497	664	618	5,643	4,676
410	1,275	712	..	2,397	2,001	N. Carolina	32	44	76	43	2,473	2,044
181	1,165	4	..	1,350	1,174	Texas	1,111	327	1,438	1,344	2,788	2,518
167	876	91	..	1,134	1,076	Florida	142	281	423	469	1,557	1,545
222	589	86	1	898	723	Georgia	185	257	442	532	1,340	1,255
133	551	9	..	693	665	Tennessee	58	174	232	183	925	848
168	597	52	..	817	658	S. Carolina	43	31	74	27	891	685
153	586	10	..	749	604	Kentucky	25	96	121	150	870	754
138	354	..	3	495	484	Alabama	64	54	118	146	613	630
106	381	55	5	547	321	Louisiana	270	427	697	589	1,244	910
12	289	..	..	301	195	W. Virginia	53	26	79	96	380	291
32	225	9	..	266	178	Oklahoma	110	48	158	190	424	368
26	186	..	..	212	118	Arkansas	78	137	215	231	427	349
21	161	3	..	185	114	Mississippi	1	..	1	7	186	121
2,742	11,131	1,031	19	15,023	12,369		2,339	2,399	4,738	4,625	19,761	16,994
						TOTAL UNITED STATES						
No. 1	No. 2	No. 3	No. 4	1951	1950		No. 5	No. 6	1951	1950	1951	1950
41,729	179,666	24,811	2,852	249,358	..	Total U. S. 1951	29,551	46,613	76,164	..	319,514	..
43,958	149,526	25,295	2,168	..	220,947	Total U. S. 1950	28,403	44,313	..	72,716	..	293,663

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Census reports dealer Storage as of August 1

INVENTORIES and storage capacity of liquid fuels at the secondary level—total supplies of petroleum jobbers and secondary supplies of petroleum refiners—amounted to 51,195,000 barrels in storage in the five PAD Districts on August 1; 84,478 barrels storage capacity, not including District 5.

The report containing these statistics was prepared by the Bureau of the Census and is the first of a monthly series which will continue to check on inventories and storage at the secondary level. Primary storage and inventories at refineries, in pipelines and at bulk terminals of refiners is published by the U. S. Bureau of Mines, in a separate report. Together, they provide a comprehensive picture of the stocks of the 4 major refined products in the United States.

Secondary inventories of 51,195,000 barrels were broken down as follows:, gasoline, 20,669,000 barrels or 40.4% of total; kerosene, 7,179,000 barrels or 14.6%; distillate, 17,042,000 barrels or 33.3%; residual, 6,305,000 or 12.3%.

This was the picture reported by the Census by Districts: 22.5 million barrels, 44% of total, were located at bulk plants and distributing terminals in PAD District 1; 18.2 million, 36%, were in District 2; 5.6 million barrels, 11%, were in District 3; 1.1 million, 2%, in District 4 and 3.7 million, 7%, in District 5.

Data on storage capacity were compiled only for PAD Districts 1, 2, 3 and 4. In these four Districts secondary storage as of August 1 was 84.5 million barrels, of which 33.8 million barrels, 40% of total, were assigned to gasoline; 12.6 million, 15%, to kerosene; 28.8 million, 34%, to distillate fuels and 9.3 million, 11%, to residual fuels. Secondary inventories in those four PAD Districts showed that the secondary storage was filled to about 56% of capacity.

By districts the percentage of storage capacity filled on August 1 was: District 1, 62.7%; District 2, 46.2%; District 3, 55.1%; District 4, 48.7%.

Briefly, District 1 comprises the East Coast states from Maine to Florida; District 2 is the Midwest; District 3, the Gulf States; District 4, the Mountain states and District 5, Pacific Coast, plus Nevada and Arizona.

The Census Bureau explains that the figures in the report are subject to revision on the basis of later returns from firms whose reports were questioned for inaccuracies or incompleteness. Inventories are reported on a custody basis, differing from the 1948 Census of Business, which was on an ownership basis. Storage capacity of bulk terminals of refiner-marketers, included in the 1948 Census of Business, is excluded from this report so that the secondary capacity reported herein is not directly comparable with the 1948 Census of Business.

Estimates presented here are based upon a probability sample of three groups of firms holding secondary inventories:

1. Jobbers in PAD Districts 1, 2, 3 and 4, based upon 1948 Census of Business lists of jobbers operating petroleum bulk stations and distributing terminals during 1948. It does not include those companies who entered business since then, except to the extent that they may be successors to or operators of the facilities of a firm in business in 1948;

2. Refiner-marketers with inventories and secondary storage in the four Districts, based upon a list of refiners supplied as complete by the Bureau of Mines and the petroleum industry;

3. PAD District 5, based on information supplied by the Bureau of Mines.

The chances, explains the Census Bureau, are about two out of three that the estimated items would differ from the result of a complete census of secondary inventories by less than 1 or 2% for the most part.

Since this is the first report of its kind prepared no comparative figures are included. It is reported that the next survey includes a request for September 1, 1952 figures and comparative data for September 1, 1951.

Secondary Inventories and storage Capacity by PAD Districts, August 1, 1952

(Thousands of barrels)

PAD District	Inventories					Storage Capacity				
	Total	Gasoline	Kerosene[1]	Distillate[2] Fuels	Residual[3] Fuels	Total	Gasoline	Kerosene[1]	Distillate[2] Fuels	Residual[3] Fuels
United States	51,195	20,669	7,179	17,042	6,305	n.a.	n.a.	n.a.	n.a.	n.a.
District No. 1	22,477	5,993	3,262	9,058	4,164	35,673	9,881	5,053	14,434	6,305
District No. 2	18,239	8,346	3,083	5,299	1,511	37,080	17,254	6,119	11,459	2,248
District No. 3	5,639	3,299	641	1,219	480	9,466	5,258	1,306	2,211	691
District No. 4	1,135	702	83	335	14	2,259	1,382	168	687	22
District No. 5[4]	3,705	2,329	110	1,130	136	n.a.	n.a.	n.a.	n.a.	n.a.

n.a.—Not available.

[1]Includes range oil.

[2]Nos. 1 to 4 fueloil and light Diesel type oil.

[3]Nos. 5 to 6 fueloil and heavy Diesel oil.

[4]Data for District 5 supplied by the U. S. Bureau of Mines.

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Here is an outstanding new horizontal oil furnace with unique design features which assure more efficient and quieter operation—with longer life. The Type 253 can be used as a horizontal furnace in attics or crawl spaces of homes, or it can be suspended for application as a blower-unit heater in commercial installations.

Initially, this unit is available in one size—110,000 Btu input. Soon to come are sizes up to 225,000 Btu input. It is available with either of two efficient Mueller pressure atomizing oil burners, and can easily and inexpensively be converted to gas.

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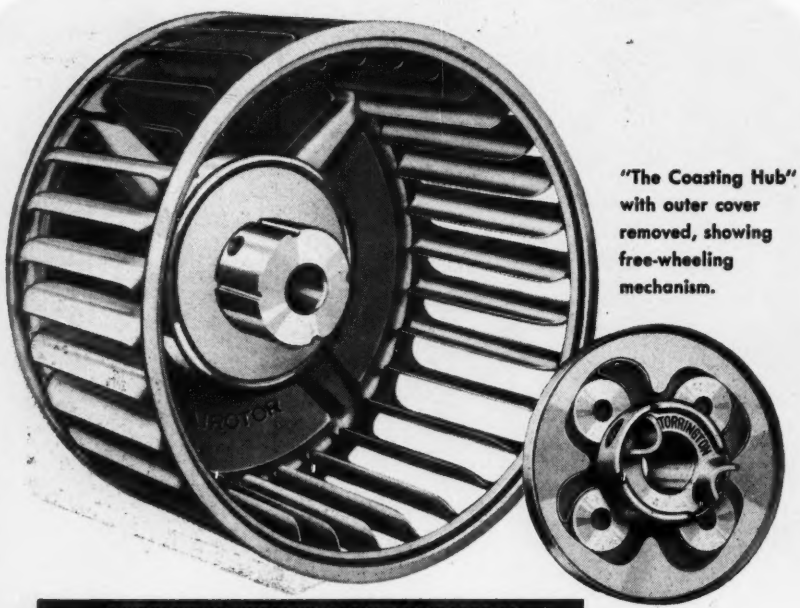

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- Requires no electrical work to install!
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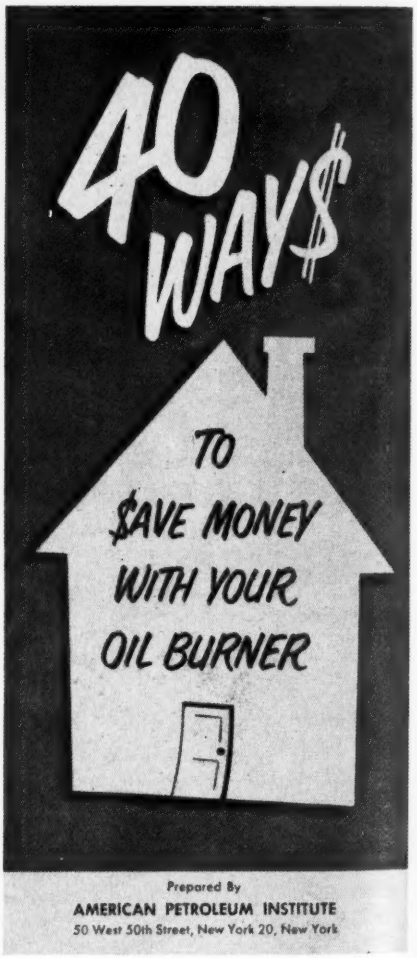
API's Division of Marketing and the Oil Industry Information Committee cooperated in the preparation



of the leaflet, which is being made available at cost for distribution to the public by all companies in the industry. Copies are being offered at $16.75 per thousand. The leaflets may be obtained through the OIIC's national office, 50 West 50th St., New York 20, or through any of its district offices. Space is provided on the back cover for company imprints, if desired.

The aim of the booklet is expressed in the foreword, which explains:

NEW Century Lo-boys with

CONTROLLABLE HUMIDIFIER, AIR WASHER AND PURIFIER

Enthusiastic buyers increase Century dealers' profits!

Like all heating men, you realize the true facts about humidified heat. You know humidifiers are unsatisfactory unless they can be accurately regulated to compensate for weather changes plus differences in climate and home construction. You also know how easy and profitable it would be to sell a heating line offering built-in humidity that can be controlled to the exact degree desired.

Only Century offers this important selling advantage. It's a sales-closing exclusive for Century dealers. Century dealers proudly tell their customers, "YOU—not the manufacturer—determine the exact degree of humidity for your home. A simple humidistat, placed by your thermostat, permits accurate humidity control and makes your home a more comfortable place to live. You enjoy this heating 'extra' only when you install Century." When you sell the progressive Century automatic heating line you profit from a line that's years ahead of current standards. It's a complete line too — 38 gas and oil units that sell and satisfy. Write today for the Century catalog and complete details. You'll be glad you did.

CENTURY ENGINEERING CORP.,
CEDAR RAPIDS, IOWA

Century

Century

Advertised in Better Homes and Gardens and Small Homes Guide.

CENTURY ENGINEERING CORP., 416 Third St., Cedar Rapids, Iowa

Please send me further details on your complete automatic heating line.

- ☐ Gas Hi-boys
- ☐ Gas Lo-boys
- ☐ Gas Counterflow
- ☐ Gas Conversion Burners
- ☐ Oil Hi-boys
- ☐ Oil Lo-boys
- ☐ Oil Counterflow
- ☐ Oil Conversion Burners
- ☐ Hot Water Boilers

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Address _____

City _____ State _____

• • PIONEERS IN AUTOMATIC HEATING FOR OVER 26 YEARS

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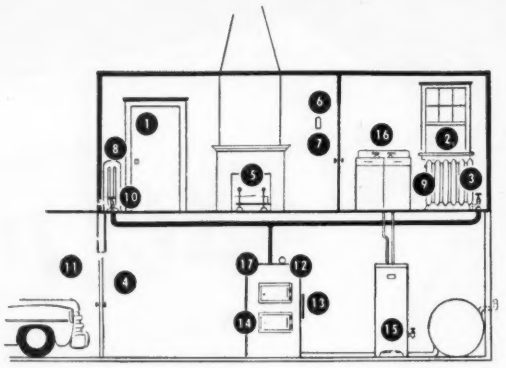
Make these BIG SAVINGS Yourself

without spending a cent



1 Close doors promptly to keep all the heat inside

2 Keep temperature moderate enough so windows won't have to be opened

3 Turn off heat in rooms being ventilated

4 Turn off heat and close doors of rooms not in use

5 Close fireplace dampers when not in use. If dampers are missing and fireplace is not used, close chimney opening

6 Lower thermostat at night. (Setting it back 10 degrees for 8 hours will save 10 per cent or more.)

7 Lower thermostat to 55 degrees when going away for a day or longer period

8 Check radiator valves for proper function. Replace non-adjustable steam radiator valves with valves of adustable type. Drain air or water, if present, from radiators to allow them to heat up fully

9 Check radiator enclosures to be sure they are not trapping heat.

10 Remove rugs and furniture from places where they block radiators or registers

11 If your garage is heated, keep doors closed and temperature low

12 Keep water in heating boiler clean for faster, more efficient operation.

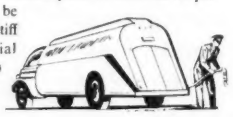
13 Watch steam boiler water level. A boiler usually operates best if level is at center of gauge.

14 Avoid overheating furnace. It wastes fuel.

15 Drain a pail of water from bottom of domestic hot water tank monthly to insure efficiency.

16 Check and repair leaky hot water faucets. (A leak of only one drop per second means a loss of 700 gallons a year.)

17 Clean soot out of boiler. A mere ⅛ inch soot deposit increases oil consumption as much as 10 per cent. (Soot may be removed with stiff brush or special vacuum cleaner.)



"You may well be wondering why your oil heat supplier, who makes his living selling fueloil, should distribute this leaflet urging you, his customer, to conserve fueloil. The reason is that, in addition to selling fuel, your dealer also supplies service. He knows his business can only progress and prosper by assuring people of better heat with oil heat. And better heat means, among other things, less expensive heat.

"Your heating oil supplier, like all other members of the oil industry, knows that the one sure way to win and hold your patronage is to render the finest kind of service which a highly competitive market demands."

The 23 improvements that are recommended for fuel savings, even though "These changes cost you some money," range from an annual inspection of the oilheating system to insulation of the attic floor or roof and include such other suggestions as converting gravity hot water and warm air heating systems to forced circulation for better efficiency and balancing of the heat distribution.

❖

Oilburner Courses offered in Essex County, N. J. Schools

COURSES in oilburner instruction, announced by the Essex County, N. J., Vocational School authorities, include instruction in the basic principles of oilheating, continue to more advanced techniques and applications and offer "Oilburner Fundamentals for Salesmen," in addition to the eight other classes.

They were arranged in cooperation with the Fuel Oil Distributors' Association of New Jersey, Newark 2, N. J., and the sessions got under way on September 29 at the Essex County Adult Technical School in Newark. The training, conducted in evening classes, is open to any resident of Essex County, or persons working in the county, 16 years of age or older, who is employed during the day in the oilburner field or in a related occupation. Residents are admitted without charge, non-residents, accepted after all local applicants have been cared for, are charged a tuition fee of 35¢ per hour of instruction.

The "Basic Practices" course consists of 20 sessions for a total of 60 hours of instruction and presents a history of the industry from its inception, along with basic principles of heating. Course No. II, "Domestic oilburner Installation," follows with 30 sessions, 90 hours of instruction, which covers an introduction to oilheating equipment and the theory and practical application of all its component parts. Part of this course requires the student to outline the procedure and material necessary to complete installations of the various types of burner in each type of heating system that has been discussed previously.

A course in "Domestic oilburner Service," totalling 120 hours of study, gets into actual field practice, augmented by practical lectures and customer relations. "Advanced electrical Practices," "Commercial and Industrial Boiler Installation," "Commercial and Industrial oilburner Installation," "Commercial and industrial oilburner Service" round out the instruction available to installation men.

The other two study groups are for salesmen, one covering fundamentals of steam, hot water and warm air heating, combustion principles and typical control systems, designed to equip the salesman with the basic knowledge to make heating surveys and preliminary cost estimates. A companion course will acquaint the salesman or executive with installation and service problems without actually doing the mechanical part of the work.

More detailed information can be secured from the Association's Educational Committee, 1060 Broad St., Newark 2, N. J., or the Essex County Vocational School authorities.

❖

Joseph H. Ellender has been named chief economist for Arabian American Oil Co., New York, N. Y. Before joining the company, he was assistant manager of Texaco's Economics Department.

True in 1922... Still true 30 years later

FUEL OIL
85
SIMPLE
ODORLESS
RELIABLE
"The Fastest Selling Oil Burner"
"Why is ABC easier to sell?" Let's consider just one of the reasons?" Its distinctive features can be graphically and convincingly demonstrated.
You don't have to indulge in fine-spun theories. You can demonstrate ABC's superiority. You can prove its claims! No, we did not say ABC is perfect. Nothing is. But ABC does give home owners what they pay for—Heat—when they want it, as they want it.
Men of Ability—
An ABC exclusive agency is worth money. If you can do things in a big way, we want to hear from you.
Automatic Burner Corporation
312 No. May Street
Chicago
ABC OIL BURNER

Demonstrating the superiority of a product will render it easier to sell. Evidently the agents for ABC made use of that axiom, as indicated by this advertisement from the 1920's—reprinted here from Fuel Oil. And with that same confidence we can repeat today this statement concerning the ABC Oil Burner: You can prove its claims!

ABC OIL BURNERS

AUTOMATIC BURNER CORPORATION

1823 CARROLL AVENUE • CHICAGO 12, ILLINOIS

PAD Report predicts Rise in Gasheating

A SURVEY conducted by the Petroleum Administration for Defense has discovered that natural gas by 1955 will account for 96% of all gas sales and that residential space heating will register the greatest increase in natural gas demand. By 1955, PAD estimates that residential gasheating will rise to 57.4% over 1951 totals. Information obtained from a questionnaire circulated among gas companies by PAD disclosed also that other residential demands are expected to be 33.4% higher in 1955; commercial and other, 40.3%; industrial, 41.8%. And, industrial sales in 1955 will make up 57.9% of the total and still be in the majority.

Assumptions made by PAD in reaching these conclusions include gradual and moderate price increases for fueloil and coal; "realistic pricing" for gas; availability of gas; steel needs being met; normal weather conditions; no additional Government controls on business.

As reported by *Petty's Oil Letter*, results of the survey induced PAD to obtain approval of the Defense Production Administration to increase the 1953 gas pipeline expansion program to 24,900 miles, with DPA promising to do all it could to provide the needed steel. The gas industry, explained PAD, has been restricted by short supply since long before the Korean invasion, extension of new heating customers and industrial users has been limited in many states and that most recently PAD Order No. 2 has imposed limits in some areas. The restrictions should be lifted, PAD continued, but "that can be done only if the industry is permitted to expand the facilities necessary to transport additional supplies to the market areas."

❖

New York Schools ready for oilburner Classes

THE THREE New York vocational high schools that last year so successfully held night courses of instruction in oilburner installation and maintenance are again accepting registrations from applicants for a new series of classes. The courses, sponsored by the Petroleum Educational Commission of the Advisory Board for Vocational and Extension Education, New York City Board of Education, are held for service man and mechanics regularly employed in the oilburner industry. Last year training was received by a total of 457 men in the industry who attended both long term and short unit classes.

Registration from applicants will be accepted any evening at the Thomas A. Edison Vocational High School, Jamaica; Brooklyn Technical High School, Brooklyn and Samuel Gompers Vocational High School, Bronx.

❖

NPC fourth quarter Meeting to be held on December 9

A MEETING of the National Petroleum Council has been called by Chairman Walter S. Hallanan for Tuesday, December 9 at 10:00 A.M. in the Departmental Auditorium, Washington, D. C. Hallanan explained that the

MODEL W-02½ PUMP

The GORMAN-RUPP COMPANY
MANSFIELD, OHIO
A FULL LINE OF CENTRIFUGAL PUMPS

For Low Cost Delivery of Fuel Oil to the Home!

The GORMAN-RUPP PUMP

Small Engine Driven Unit

- SAVES USE OF TRUCK ENGINE
- SAVES ON COSTLY TRUCK MAINTENANCE
- PUTS PUMP AND ENGINE EASILY ACCESSIBLE

Economies are being made on fuel oil deliveries by many oil companies with the small engine driven W-02½ pump.

It is driven by its own 7½ H.P. engine instead of by the big truck engine. Less wear and tear on the truck power plant results. A double throw switch turns off truck engine ignition when turning on ignition of the engine driven pump.

Install a Gorman-Rupp Petroleum Products pump. Increased life and fewer truck engine overhauls are worthwhile gains.

Contact us for full information

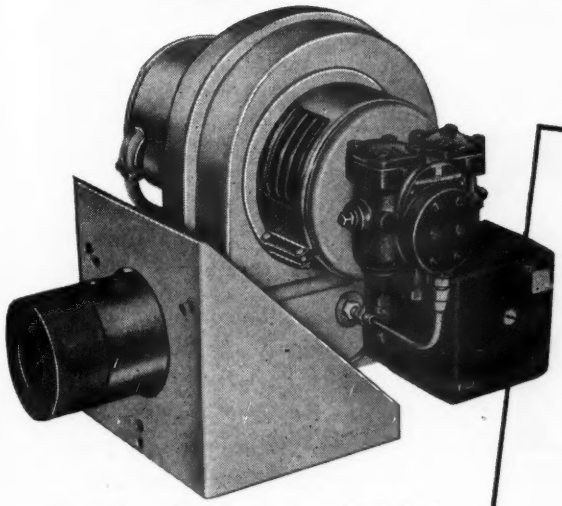
CHAS. W. M. COOTE CO., INC.
336 GREGORY AVENUE, WEST ORANGE, NEW JERSEY

PETRO

REG. U. S. PAT. OFF.

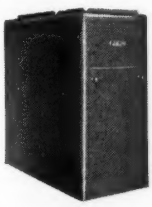
DOES IT AGAIN—

with the finest residential oil burner in its 50-year history



Shown here is flange mounted Model P-15E. Model P-45 (not shown) is mounted on heavy steel base, rubber insulated.

Petro Oil-fired Warm Air System and Complete Winter Air Conditioners



PETRO LOWBOY
Designed especially for low-headroom installation

PETRO HIGHBOY
For closet-type installations. Occupies minimum floor area.

Ask for full information on these units and also Petro Oil Boiler-Burner units and Petro commercial oil burners.

Here's why we say this—

This new Petro oil burner has outstanding sales-appeal and performance built right into it. Look at these features!

- Wide capacity range; from 0.6 to 4.5 gal. per hour.
- Heavy construction; accurately machined for permanent alignment.
- Rubber mounted for quiet, smooth operation.
- Permanently sealed and lubricated anti-friction ball bearings.
- Three large non-clogging air intake ports, separately adjustable.
- Flame shape adjustable, to fit combustion chamber.
- Fuel economy -- Burns No. 2 or lighter oil, including catalytic oils, with high efficiency.

Ask your distributor to show you the new Petro burner. You'll agree that Petro has done it again!

Jess R. Crews
SALES MANAGER

PETRO
REG. U. S. PAT. OFF.

3170 West 106th Street
Cleveland 11, Ohio

MAKERS OF QUALITY HEATING AND POWER EQUIPMENT SINCE 1903

fourth quarterly meeting of the Council normally would be held during the latter part of October. However, because of conflicts with other meetings of various oil and gas groups it was decided, after consultation with Secretary of the Interior Oscar Chapman and Deputy Petroleum Administrator Warren, to postpone the meeting.

Chairman Hallanan urged attendance by all members of the Council "as we will have a number of important matters for consideration."

U. S. Department of Labor fueloil Prices (July)

FIELD INVESTIGATIONS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published, including applicable state and local taxes. Those in the table that follows were taken from prices of July 15 (cents per gallons):

	Range	No. 1	No. 2	No. 3
Boston	15.70	15.37	13.40	..
Manchester	16.20	15.70	14.10	..
Portland, Me.	15.20	15.20	13.20	..
Buffalo	16.06	..	14.85	14.85
New York	..	..	13.58	..
Philadelphia	..	14.23	13.00	..
Chicago	14.83	14.48	13.57	13.57
Detroit	..	15.04	14.01	..
Milwaukee	..	15.04	14.10	14.00
Kansas City	..	13.06	12.04	12.04
Minneapolis	14.77	14.30	13.48	13.53
Baltimore	..	14.08	13.57	..
Wash., D. C.	..	14.55	13.67	..
Jacksonville	..	15.38	13.68	..
Norfolk	..	14.00	12.90	12.90
Richmond	..	14.38	13.30	..
Savannah	..	17.06	14.52	..
New Orleans	..	13.33	12.77	12.77
Denver	..	14.42	13.32	..
Portland, Ore.	..	14.50	12.10	..
San Francisco	..	13.87	11.54	..
Seattle	..	15.33	13.20	..

Make Sales Easier with the
Nu-Way
COMPLETE LINE
MODEL SIZES FOR BOTH DOMESTIC AND COMMERCIAL USE!
. . . And profits will be "made easier" with the Nu-Way line of oil burners. Also, your prospects will be urged to buy Nu-Way with colored and black and white ads in the leading home publications plus a wide variety of local selling aids . . . newspaper mats, mounted displays, direct mail pieces, booklets and catalogs. Decide NOW to sell the burner with the exclusive patented features . . . the Nu-Way Oil Burner line.
NU-WAY MODELS CO-2 and CO-6 — Designed to burn the modern catalytically-cracked oils. New combustion head that is really simplified in design provides easier ignition — higher efficiencies. Fuel burning capacity: CO-2 — .75 to 2 gal. per hour; CO-6 — 2 to 6 gal. per hour.
NU-WAY MODELS XL-2 and XL-6 — Equipped with Patented Air Control for top overall efficiency. Designed for use in small homes. Fuel burning capacity: XL-2 — .75 to 2 gal. per hour; XL-6 — 2 to 6 gal. per hour.
NU-WAY MODELS XL-12 and XL-20 — Features new electronic control for greater combustion safety. Designed for use in apartments, factories and other buildings requiring large capacity oil installations. Fuel burning capacity: XL-12 — 6 to 12 gal. per hour; XL-20 — 12 to 20 gal. per hour.
OIL HEATING EQUIPMENT
MR. DEALER: See your supplier today for complete information, or write . . .
THE NU-WAY CORPORATION
ROCK ISLAND, ILLINOIS
"AUTOMATIC OIL HEAT EXCLUSIVELY SINCE 1921"

API names Bartlett Chairman of Jobber Advisory Committee

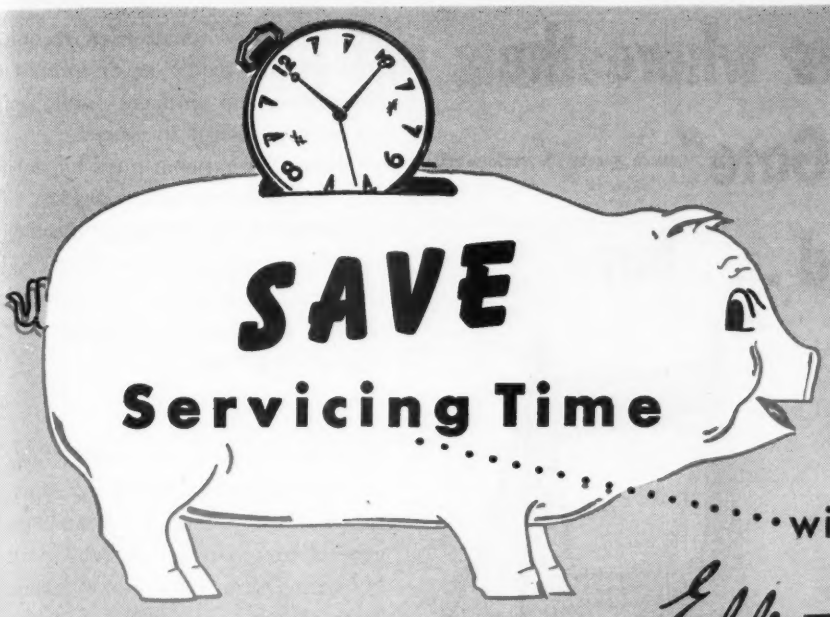
THE AMERICAN PETROLEUM INSTITUTE, New York, N. Y., has set up under its Division of Marketing, a Jobber Advisory Subcommittee to constructively and properly service the jobber segment of the industry.

R. M. Bartlett, Gulf Oil Corp., Pittsburgh, Pa., was appointed chairman of the subcommittee.

Among the 25 committeemen drawn from major oil companies, refineries and oil marketers are: Charles H. Arnold, Haggert's Service, Inc., Fargo, N. D.; Horace E. Davenport, Geo. W. Pickering Co., Salem, Mass.; M. D. De Tar, Aero Oil Co., New Oxford, Pa.; John Harper, Harper Oil Co., Long Island City, N. Y.; Miles Mills, Oils Inc., Des Moines, Ia.; M. H. Robineau, Frontier Refining Co., Denver, Colo.; George L. Savory, Savory Oil Co., Inc., Binghampton, N. Y.; Roy Thompson, Apex Motor Fuel Co., Chicago, Ill.; and Otis Ellis, National Oil Jobbers Council, Washington, D.C.

The Jobber subcommittee was created last May at the API quarterly directors meeting in Boston when a resolution calling for its creation and rules pertaining to its operation were adopted.

The Boston resolution, in the main, stated that the function of the subcommittee would be to promote the compilation of statistics and making factual studies useful to jobbers; to seek a better understanding by jobbers and suppliers of each others problems;

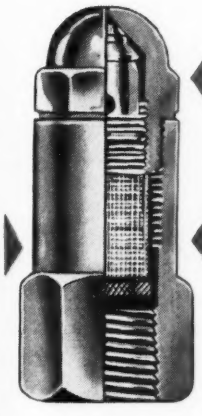


SAVE Servicing Time

...with these

Eddington UNITS

Oil Burner Nozzles



FACTORY-TESTED TO INSURE PERFECT OPERATION

RIGHT FOR SPRAY ANGLE, ATOMIZATION, AND RATED CAPACITY

LARGE CAPACITY MONEL STRAINER KEEPS ORIFICE AND SLOTS FROM PLUGGING!

Oil Burner Filters

PROVED FOR REDUCING SERVICE INTERRUPTIONS

BIGGER FILTER AREA; DO A MORE THOROUGH FILTERING JOB

MORE SERVICE BETWEEN CARTRIDGE CHANGES

Oil Burner Nozzle Filters

SAFEGUARD FOR CONTINUOUS SERVICE!

FILTER LOCATED RIGHT AT NOZZLE TO INTERCEPT FINAL IMPURITIES!

PROVIDES MAXIMUM COMBUSTION EFFICIENCY

We'll be glad to send you complete information on Eddington Filters, Nozzles, Valves, Air Cones, Stabilizers, Strainers, Adaptors, or Inspection Mirrors. Write today.

EDDINGTON METAL SPECIALTY COMPANY

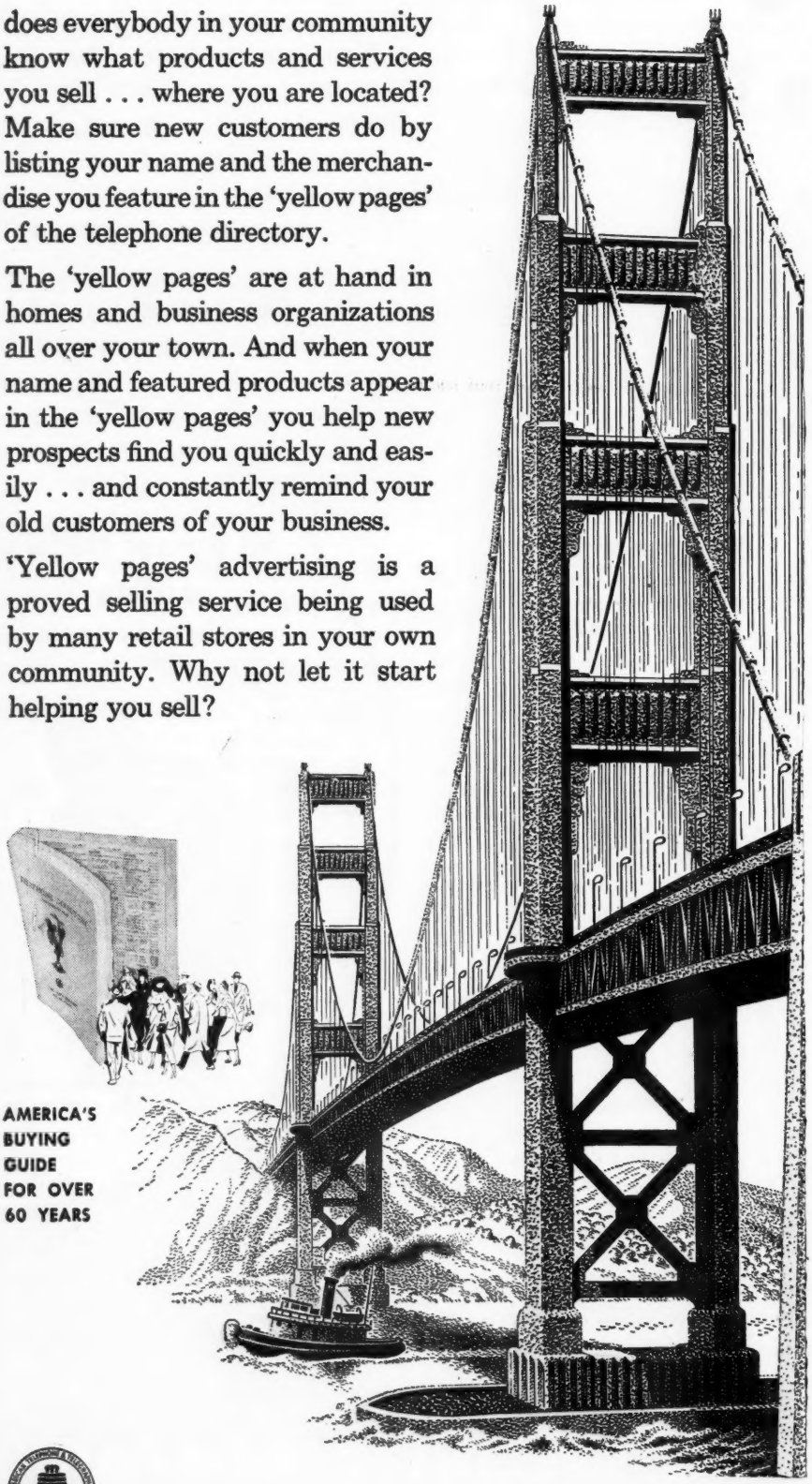
EDDINGTON, PENNSYLVANIA

Everybody knows where the "Golden Gate" can be found . . . *but*

does everybody in your community know what products and services you sell . . . where you are located? Make sure new customers do by listing your name and the merchandise you feature in the 'yellow pages' of the telephone directory.

The 'yellow pages' are at hand in homes and business organizations all over your town. And when your name and featured products appear in the 'yellow pages' you help new prospects find you quickly and easily . . . and constantly remind your old customers of your business.

'Yellow pages' advertising is a proved selling service being used by many retail stores in your own community. Why not let it start helping you sell?



AMERICA'S BUYING GUIDE FOR OVER 60 YEARS

For further information call your local telephone business office

promote the compilation of technical matter which would be of interest to the jobbers and to make public opinion surveys useful to jobbers.

The resolution continued by stating that under no circumstances the subcommittee should engage in discussion of prices, margins, commissions, sales territories, adequacy of marketing policies or supply arrangements for any jobber group.

❖

Stanley J. Pachyn, formerly assistant general sales manager, Combustion Control Corp., has been named general sales manager, Boiler Division, Hapman-Dutton Co., Kalamazoo, Mich. *Herman Williams,* recently in the field service department at Dutton, has been appointed service manager and assistant sales manager. Pachyn was for several years Midwest sales manager for the Industrial Division, Bryant Heater Co. and earlier was in sales and service positions in the Chicago area for Western Electric and Iron Fireman Mfg. Co. Williams has been associated with Hapman-Dutton for several years in boiler manufacturing, engineering and field service capacities.

W. Whitney Kuenn has been appointed sales manager of the newly created Air Conditioning Products Div., Owens-Corning Fiberglas Corp. In his new post, Kuenn will coordinate sales efforts for such Fiberglas products as Dust-Stop air filters, filter frames, plain and faced Aerocor, and duct insulation. Kuenn has headed appliance sales for Owens-Corning since 1948. Before that he was works laboratory engineer, product development engineer and field application engineer in the appliance phase of the company's operations. He has been with the Fiberglas organization since 1943.

Arthur H. Boultbee has been appointed manager of manufacturing research, Shell Oil Co., New York 20, N. Y. He will replace D. L. Yabroff. Boultbee joined Shell Oil as a chemist at the Martinez Refinery in 1935. He since has served at Shell's other California refinery at Wilmington and in the San Francisco office.

"It's the answer to a serviceman's prayer"

says this well-known Delaware heating dealer, about the new Honeywell FAST-ACTING Aquastat!

"Brad" Bradford, left, President, Diamond Burner Company, Wilmington, tells Honeywell representative Jim Shetsline

"There has been a definite need for an Aquastat of this type—it's the answer to a serviceman's prayer.

"Besides providing a *flexibility* we've never had before, it's much easier to install and service. The average installation can be made in a few minutes, and you can set and adjust the control point *externally*, with a screwdriver.

"It's by far the fastest, most sensitive Aquastat we've ever worked with.

"The new L4006 is priced right, as well. I can specify it 'in the dark' on any hot water job—and be absolutely sure I'm doing the right thing for both my servicemen *and* my customers.

"We have 16 service trucks working out of Wilmington—all of them radio-equipped, for contact with the central office. We cover the whole state of Delaware.

"Our business was built on quality. And we feel there is no better assurance of quality controls than the Honeywell name."

• • •

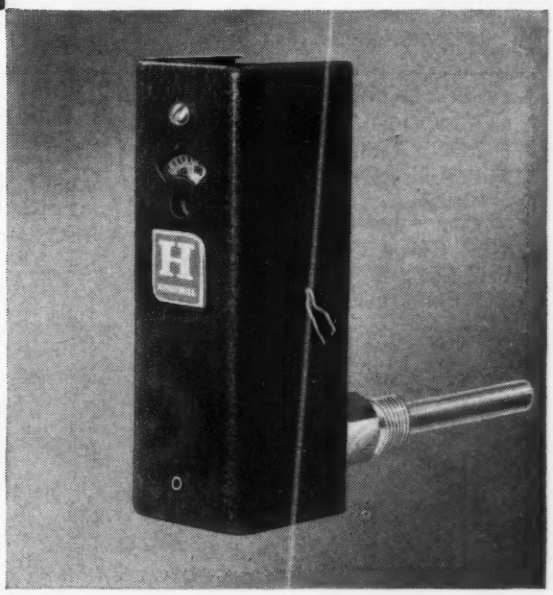
You accomplish *two purposes* when you specify the new Honeywell L4006 Aquastat: you make the job *easier* for your installation and servicemen—and you give your customers a better, *faster-acting* control for their money!

H HONEYWELL *Another Plus-Profit Product from Honeywell*

The new Honeywell L4006 Aquastat is modern—fast-acting—easy to install!

The 'L4006' has a new sensing element that rapidly detects and responds to the slightest change in temperature; a new enclosed micro-switch; a new, simplified technique of mounting for easy installation.

A complete line of six fast-acting models of this new control are available—they'll fit any job. For complete details, call your nearest Honeywell office; or write Minneapolis-Honeywell, Dept. FH-10-183, Minneapolis 8, Minnesota.



MINNEAPOLIS **Honeywell**

First in Controls

fueloil & oilheat

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 18th.

Scott named President at 50th annual NPA Meeting

ARTHUR W. SCOTT, president, Wolf's Head Oil Refining Co., Inc., was elected president of the National Petroleum Association at its Golden Anniversary meeting held September 10 through 12 at the Hotel Traymore, Atlantic City, N. J.

More than 1,000 persons, primarily from the eastern United States, attended this 50th annual meeting, making it one of the largest turnouts in NPA history.

Earle M. Craig, outgoing president of NPA and chairman of the board, Freedom-Valvoline Oil Co., welcomed the group at its opening session, Wednesday afternoon, September 10. Featured speaker of the afternoon was John S. Bugas, vice-president of industrial relations, Ford Motor Co., who spoke on "Green Lights for Freedom." Also held on Wednesday afternoon was an "Old-Timers' Hour" presided over by H. A. Logan, president, United Refining Co., as well as a presentation of the association's history with Donald C. O'Hara, NPA associate counsel making the report.

On Thursday afternoon, September 11, Thomas F. Patton, vice-president and general counsel, Republic Steel Corp., spoke on "The Aftermath of the Steel Strike." "Association Greetings," which followed the address, was presented by Frank M. Porter, president, American Petroleum Institute and R. L. Tollett, president, Western Petroleum Refiners' Association. A. W. Scott, new NPA president, presided at this general session.

A group session on "Jet Fuels — Present and Future" was held Thursday morning. It was given in the form of a symposium which featured seven of the country's foremost experts on this subject.

The annual Fellowship Banquet was held Thursday evening and on Friday, September 12, the traditional breakfast party concluded the three-day activities.

Other executive officers elected at this session were: first vice-president, Fred G. Bannerot, Jr., president, Elk Refining Co., and second vice-president, Paul R. Beck, president, Pennsylvania Refining Co. Re-elected recording secretary, treasurer and assistant treasurer were E. M. Lyons of Philadelphia, G. B. Hunter of Oil City, Pa., and Margaret Miller of Washington, D. C., respectively.

HOW ABOUT THAT?
COSMO, THE OIL HEATING ENGINEER GOES OUT FOR AN EVENING PARTY.
AHH! IT'S GREAT... TO STEP OUT AND FORGET BUSINESS FOR A CHANGE!! HOW RELAXING, TO REALIZE I WON'T BE HEARING ANY SHOP TALK! HOT ZIGGITTY!!
AND DOES COSMO HAVE A GOOD TIME? GUESS AGAIN, BUB.....
DO YOU THINK MY BURNER USES TOO MUCH OIL? WHAT SHALL I DO?
CAN MY OIL BURNER USE GASOLINE?
DO YOU THINK MY FILTER ELEMENTS SHOULD BE CHANGED, TOO? WHAT ABOUT THE THERMOSTAT?
NOT ONLY THAT, THE SMOKE DOESN'T EVEN COME OUT OF THE CHIMNEY! WHAT'S YOUR ADVICE?
WHICH IS BETTER.. OIL OR HOT AIR?
WHY DOES MY COTTAGE NEED 950 GALLONS A YEAR?
SEND IN YOUR CARTOON IDEA FOR ILLUSTRATION! YOU WILL RECEIVE CREDIT AND THE ORIGINAL DRAWING!

North Carolina Oil Jobbers meet in three-day Session

THE FALL MEETING of the North Carolina Oil Jobbers' Association, Raleigh, N. C., was held September 4 to 7 at Blowing Rock, N. C.

Committee reports occupied the first day's session. On Friday night, September 5, John E. Smith, Jr., president, U. S. Travel Agency, showed a moving picture of the ocean liner "Queen of Bermuda," and some of

This Heating Package makes my competition say "Uncle"!

Scores of dealers like me welcome the chance to sell the

Atlantic "600"

Horizontal Water Tube Heating Package

BECAUSE: *It's NEW—DIFFERENT—PROFITABLE—Another Atlantic Heating Unit.*

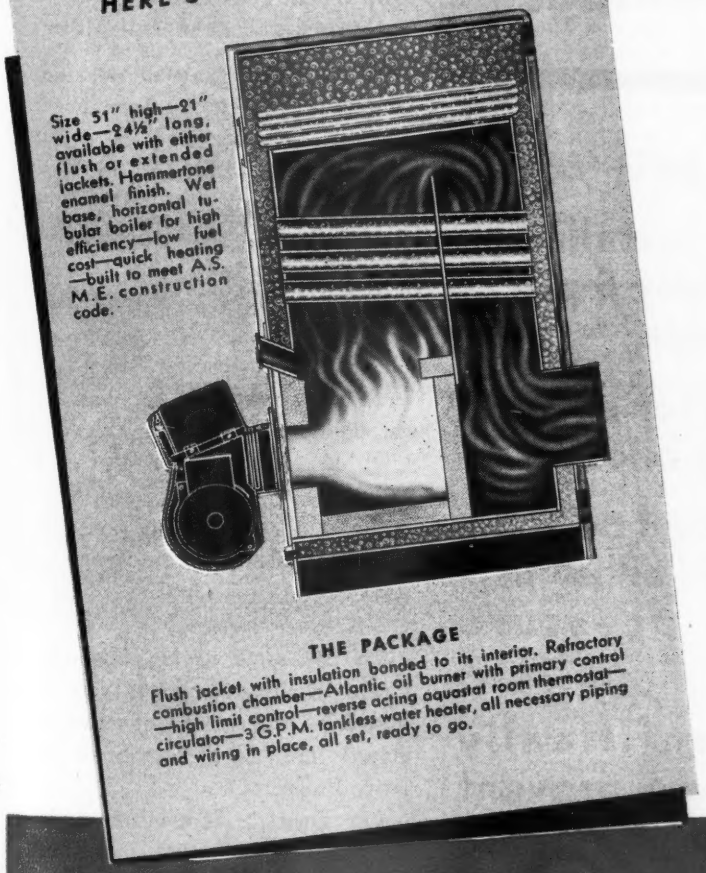
Now the Atlantic "600", bigger brother to the justly popular "500" placed on the market this spring, takes its rightful place in the Package Parade featured by Atlantic Steel Boiler Co. of Philadelphia.

What does this mean to you? Just this! The Atlantic "600" is completely assembled—*really* ready for installation the minute you take it out of its doubly reinforced shipping carton.

Saves you and your customers up to $40.00 in installation costs alone. Simply connect it and you have heat.

Write or wire today for complete information.
Our "profit plan" means more money to you.

HERE'S THE INSIDE STORY

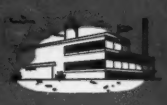


Size 51" high—21" wide—24½" long, available with either flush or extended jackets. Hammertone enamel finish. Wet base, horizontal tubular boiler for high efficiency—low fuel cost—quick heating—built to meet A.S.M.E. construction code.

THE PACKAGE

Flush jacket with insulation bonded to its interior. Refractory combustion chamber—Atlantic oil burner with primary control—high limit control—reverse acting aquastat room thermostat—circulator—3 G.P.M. tankless water heater, all necessary piping and wiring in place, all set, ready to go.

A COMPLETE LINE OF HEATING UNITS



FROM RANCH HOUSE

TO TWENTY FAMILY APARTMENT

Atlantic

STEEL BOILER CO., INC.
22nd and WASHINGTON AVENUE
PHILADELPHIA 46, PENNA.

the features of a cruise to Bermuda. This was a prelude to a decision made by the group the following day to hold the Association's 1953 meeting on board that ship for a five-day cruise.

S. Gilmer Sparger, executive secretary, Petroleum Industries Committee, was the first speaker at the Saturday session. He discussed problems relating to taxes and laws which affect the petroleum industry.

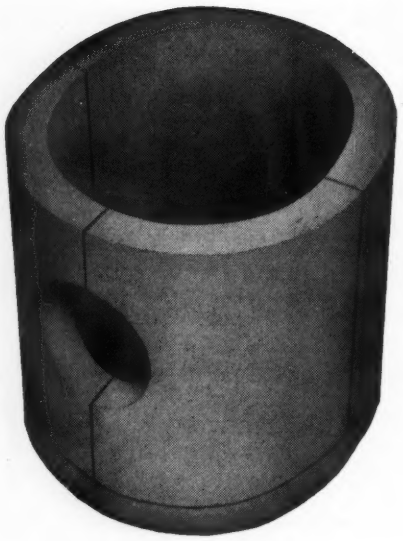
John F. Cummins, president, Cumberland Oil Co., Nashville, Tenn., spoke on "What a Jobber Expects of His Supplier."

George H. Wolfe, Jr., jobber of York, Pa., and director of Oil Heat Institute, made a short speech on what the OHI is doing and how it is trying to interest the various state jobber associations in its activities. He then introduced John Hoback, who is an accountant connected with his jobbership and who helped prepare OPS Public Form 151 relative to obtaining higher ceiling prices on fueloil. Hoback said that the form was not as complicated as it appeared. If one knows the percentage of his fueloil sales to his entire sales, he can compute his operating expenses on the sample percentage basis.

Roland Preisman, chief, Fuels and Chemicals Div., OPS, Washington, D. C., told the group of the procedure OPS would take in granting higher ceilings for fueloil in certain areas. He advised that since jobbers received products both by pipeline and ocean terminals, the jobbers should ask that the state be divided into two areas rather than one, each area to be determined by the type of terminal from which it is supplied.

The meeting concluded with a banquet and dance Saturday evening. Ernest R. Rossee acted as Master of Ceremonies.

Do Your PRESENT PRECAST CHAMBERS Give You ALL these Advantages?



1. Low initial cost.
2. Low installation cost — only 5 pieces to assemble.
3. K-factor equal to insulating brick.
4. Excellent performance with either high or low pressure burners.
5. Scientifically packed to prevent breakage.

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KolbKast Insulated Chambers

Important regulations of Day Topics at ESPA fall Meeting

FEDERAL TRADE COMMISSION trade conference procedure, Amendment 7 to CPR 17 concerning the earnings standard formula for area adjustment of fueloil ceiling prices, New York state legislation, the cartel investigation and the current industry supply-demand situation were the major topics considered by the Empire State Petroleum Association members at their fall meeting September 28 through October 1 at the Lake Placid Club, Lake Placid, N. Y.

James M. Mead, chairman, F.T.C., spoke at the opening session of the general membership Monday, September 29 on "F.T.C. Trade Practice Conference Procedure."

At the same session Edward D. Cray, executive secretary, New York Petroleum Industries Committee, discussed "1953 New York State Legislative Prospects."

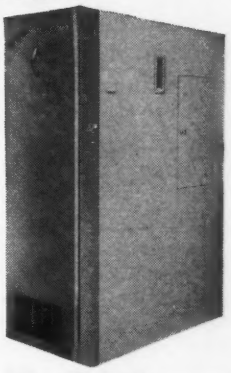
On Tuesday, September 30, William R. Pierce, assistant chief counsel, OPS, spoke on the "Interpretation and Operation of Amendment 7 to CPR 17—Earnings Standard Formula for Area Adjustment of Tank Wagon Ceiling Prices for Fueloil Distributors."

At that session Dr. Karl E. Ettinger talked on "What Does the F.T.C. Cartel Investigation Mean for Small

You can't beat

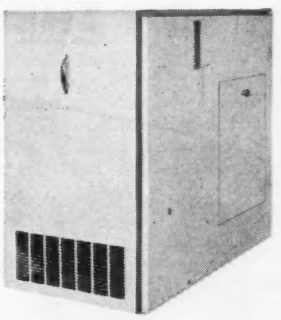
BURNHAM CAST-IRON CONSTRUCTION
BURNHAM BOILER KNOW-HOW

BURNHAM
Cast-Iron
PACEMAKER BOILER



This oil-fired boiler is a Burnham designed fuel miser, immensely popular everywhere because of its economy and efficiency. Factory assembled for quick installation. Attractively styled in handsome two-tone extended or flush jackets. Built-in tankless or storage type all-copper hot water heater — optional. Also available with tailor-made flange mounted Burnham Oil Burner. Mail the coupon!

BURNHAM
Cast-Iron
GAS BOILER
(PB SERIES)



The New Burnham PB Series Gas Boiler that gives year 'round domestic hot water, makes gas heating even better! Really quiet power type burner accurately meters gas and air for perfect "fire ball" combustion in specially engineered short refractory tunnel. The result is exceptional fuel economy and trouble-free performance. You'll sell more gas installations with this outstanding boiler. AGA approved unit. It's Burnham quality through and through! Mail the coupon!

BURNHAM
Cast-Iron
BASE-RAY
RADIANT BASEBOARD

BASE-RAY* Radiant Baseboards are one-piece iron castings. Fully water-backed, they give steady radiant heat, and hold it longer. BASE-RAY gives evenest floor-to-ceiling heat known. Your customers will appreciate its lifetime, trouble free service, its low sweeping lines and space saving advantages. Installation costs are low, too! Mail the coupon!

Burnham cast-iron construction means LONG RANGE ECONOMY because cast iron lasts longer, wears better than any other material. Excellent heat conductivity, resistance to corrosion, durability for lifetime service have proven cast iron to be superior. Many Burnham cast-iron heating units are still giving dependable service after more than a half-century of use.

*Reg. U.S. Pat. Off.

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Fuel oil & oil heat

Business." Also held on Tuesday was an open discussion on supply and demand and other inter-related industry conditions.

ASHVE to hold 59th Meeting in Chicago, Jan. 26-29, 1953

THE AMERICAN SOCIETY of Heating and Ventilating Engineers will hold its 59th annual meeting, January 26 to 29, 1953, at the Conrad Hilton Hotel in Chicago.

The 11th International Heating, Ventilating and Air Conditioning Exposition will be held in conjunction with the meeting, taking place at the International Amphitheatre on Chicago's south side, scene of the recent Republican and Democratic National Conventions. The ASHVE anticipates that this will be the largest heating ventilating and air conditioning exposition ever held, with over 300 exhibitors participating.

The society's Illinois Chapter will serve as hosts for the meeting and the committee on arrangements will be under the director of W.A. Kuechenberg, general chairman.

According to Prof. E. R. Queer, chairman of the program and papers committee, the technical sessions will present a large number of excellent engineering and research papers including several from the society's Research Laboratory and cooperating institutions.

G. W. Bornquist is vice-chairman of the committee on arrangements. The honorary chairmen are: H. M. Hart, S. R. Lewis, and A. C. Willard. M. W. Bishop is president of the Chicago chapter and G. V. Zintel is secretary.

Committee chairmen include: Banquet, H. G. Chapin; Entertainment, J. S. Kearney; Finance, G. G. Freyder; Ladies, Mrs. G. W. Bornquist; Plant Inspection, C. M. Barnes; Publicity, T. V. Johnson; Reception, H. G. Gragg and Herbert Kreisman and Sessions, J. F. Cummiskey.

Service Managers form Club in Washington, D. C.

SERVICE MANAGERS of five Washington, D. C., oilheating firms met last June 19 and set up an organizational committee to bring together all of the service managers of the District of Columbia into a luncheon club. The purpose of the club was expressed as aiming at the exchange of information on industry problems and promotion of better and more uniform service.

Members of the Organizational Committee are: T. H. Amiss, Griffiths-Consumer Co., named chairman; C. N. France, Colonial Fuel Oil Co., named secretary; E. R. Draper, John P. Agnew Co.; H. F. Smith, A. P. Woodson Co. and C. S. Vernon, Jr., Sinclair Refining Co. Three other service managers also participated in the organization movement: Frank M. Seaton, Metropolitan Petroleum Co.; Lee F. Ruggless, The Brookland Co.; S. J. Richardson, W. H. Hessick & Son, Inc.

The group's second luncheon meeting was held on September 10 and the growth in membership was evident in the large turn-out that attended. President Amiss reports a growing interest in the Club, which has been patterned

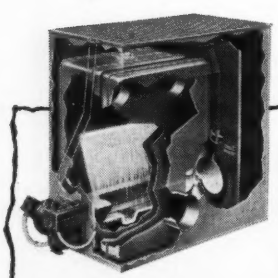
(*Please turn to page* 118)

Mr. Fuel Oil Dealer...

DID YOU PUT YOUR MONEY ON THE WINNER IN 1952?

The greatest improvements in the history of Oil Heating equipment were introduced by the pioneering leader . . .

Kresky OIL HEATING SINCE 1910



HERE IS THE TIME SCHEDULE, NOW PROFITING FUEL OIL DEALERS ALL OVER THE COUNTRY

MARCH, 1952 New Oil Floor Furnaces...with all controls at floor level. Four flat floor register models, 40,000 to 112,800 B.T.U. Three dual wall register models, 50,000 to 72,800 B.T.U.

APRIL, 1952 New Forced-Air Dual Wall Oil Furnace. For houses with slab floors or low foundations. Installation need not be made until house is complete. No money tied up. 57,500 B.T.U.

JULY, 1952 New Central Heating Forced-Air Oil Furnace. Approved for conventional or 4" ductwork. No assembly costs on the job. Saves up to 3 sq. ft. when installed in closet. Convertible to gas at any time. 75,000 and 105,000 B.T.U. models.

Start doing business NOW with the LEADER

...more developments are coming in 1953!

Send for free specification folder, or see your Kresky distributor

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(Reprinted From The Market Data Book—Industrial Marketing Magazine)

One Magazine Dominates In The Ever Growing Oil Heat Field!

FUELOIL & OIL HEAT gives 87% coverage with 13,003* circulation

The oil heating industry is growing so rapidly it is difficult to make predictions. Last year 732,874 domestic and industrial oil burners and units were manufactured. Trends indicate 1952 may be better. If your product or service is marketable in this vast growing industry —then your advertising belongs in Fueloil & Oil Heat. Set your advertising message before these important readers in the next issue—they'll be looking for it!

For nearly thirty-one years Fueloil & Oil Heat has been the printed spokesman, promoter and meeting ground for manufacturer, wholesaler and retailer of fueloils and oil burning equipment. Its value has grown as the industry has grown — for its "How-to-sell-more" editorial policy makes money for dealers and sells more for advertisers. The alert, alive editorial pages generate enthusiasm and this enthusiasm has helped make the oil heating industry as progressive as it is, and has established Fueloil & Oil Heat as the recognized counsel and authority for the industry.

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FACTS ABOUT THE OIL HEATING MARKET

Only about 2/5ths of American homes having central heat have automatic heating. In surveys, thousands of families have indicated their preference for oil burners. Dealers whose principal volume is in oil burner sales dominate this market. In 1951, they sold 38.2% of all burners. Fueloil distributors rank second with 31.4%.

NEW COMMERCIAL-INDUSTRIAL SECTION A MEDIUM IN ITSELF

Of our total readers, 3,331 handle either heavy duty equipment or fuel oil for commercial-industrial installations. 40,922 of these installations were made last year. It is clear that Fueloil & Oil Heat readers accounted for a majority of them. They are the dealers who should be selling your equipment.

A readership survey was conducted by The Ray Co. among its dealers, whose response indicated this reading preference —

FUELOIL & OIL HEAT	— 79%
MAGAZINE A	— 53%
MAGAZINE B	— 52%
MAGAZINE C	— 52%

EVERY ISSUE CRAMMED WITH LAST WORD NEWS & ARTICLES plus regular departments:

- NAMES IN THE NEWS
- EDITORIAL LEAKS
- OILHEATING TRENDS
- GOVERNMENT ON FUELS
- INDUSTRY GROUPS
- EVERYDAY SNAGS
- MANUFACTURERS' ACTIVITIES
- DEGREE-DAY TABLES

*Fueloil and Oil Heat has an audited (CCA) circulation of 13,003, the only circulation that *covers* this *buying market.* Among retailers in 25 major markets a survey by Fact Finders, Inc., learned these important facts — each copy is read by an average of 4+ persons, 43% of all who read take it home to read. Average reading time 1¼ hours.

(FORMS FOR THE NOVEMBER ISSUE CLOSE OCTOBER 25)

fueloil & oil heat

ONE DOMINANT PUBLICATION SERVING MANUFACTURER, WHOLESALER, RETAILER

COMMERCIAL & INDUSTRIAL oilburning

Million-Gallon hospital Job is 100% complete, modern

Sequence combustion Controls for six 75 gph Burners; Job has only one suction Line

by
Jean L. Dupuis

VISIT AN OILBURNER installation that uses one million gallons of oil a year, and you can't fail to learn something. You'll pick up valuable technical pointers whether you are a dyed-in-the-wool expert at biggest automatic burners, or a domestic oilburner enthusiast just curious about industrial burners.

The Meyer Memorial Hospital in Buffalo has a million-gallon burner installation which is outstanding. Here an industrial burner enthusiast produced his version of a big-burner job that is 100% complete and modern. The job is stacked with items educational for burner dealers.

What's there to see on this installation? First, six burners of the modulating-flame type using No. 6 oil. They are really automatic, for they start up and shut down by themselves. As will be covered later in this article, they do much more than that.

Second, there's the oilburner piping system with but one suction line and one return line for the six burners. This in itself has many educational pointers.

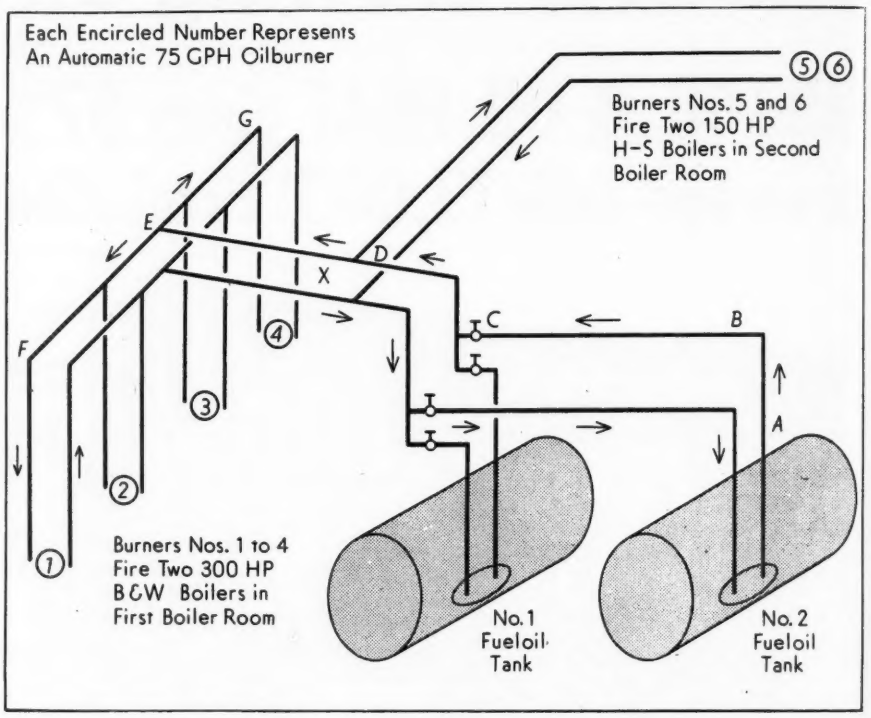
Third, there's the sequence-type system of combustion control which should be well known to every dealer handling commercial and industrial burners, but which many of these dealers don't know about and should start studying right now.

Fourth, an educational project in itself, is the electronic control system that gives the n'th degree of safety relative to ignition failure and flame failure of the big burners.

This Buffalo job has many other things well worth seeing. One I heard about before leaving New York to go to see the job, and wanted to see first thing on arriving at the hospital. It's the hot water circulator giving forced-circulation for the heating plant that serves the different buildings. After hearing that this has a 50 horsepower motor, who wouldn't be impatient to see it? Pipe size is ten-inch; motor speed is 1750 rpm, resulting in a highly effective peripheral speed for the giant-size impeller. Think of a domestic-job 1/6 horsepower circulator, then imagine a circulator having 300 times the power. To help you do this, I made certain to get a photograph of the 50 horsepower hot water circulator.

Going over the details of the installation with Lloyd P. Hunt, president of Automatic Firing, Inc. of Buffalo, you can tell that this job is his dream child that has materialized. He's the dealer who engineered the installation from scratch, saw through every one of its technicalities in person, and now knows every microscopic detail of the burner equipment in the hospital, and every idiosyncrasy of every control and piece of equipment he installed. He knows this job backwards and forwards!

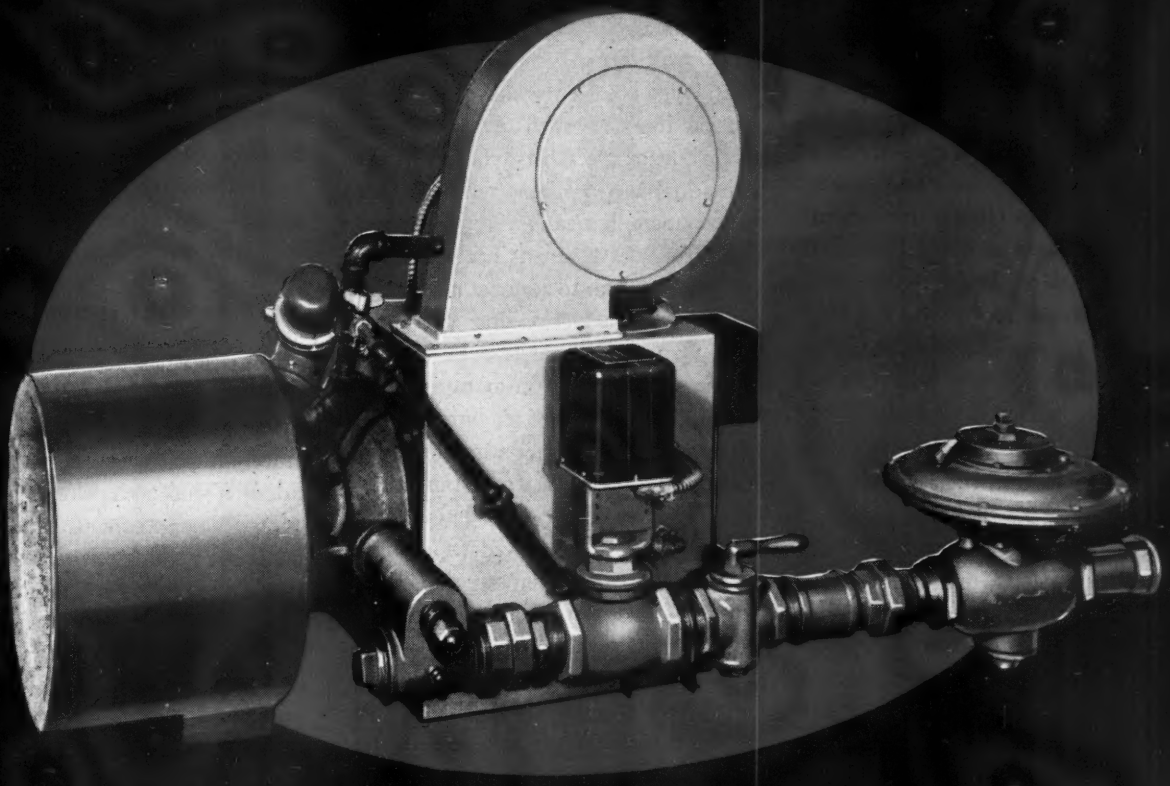
Automatic Firing, Inc., is an impressive, engineering-minded Buffalo dealership that concentrates on Iron Fireman equipment. Its letterhead lists oilburner, stokers, gas burners and combination oil-gas burners, and also electronic controls for smoke and combustion safety. Lloyd P. Hunt is the mainspring of the company and gives the impression that he works day-and-night seven days a week, has oilburners as his first love, but is almost as enthusiastic about commercial-industrial combustion controls of sequence and similar types, and electronic controls of the kinds used in boiler rooms.



Diag. 1—*With No. 2 oil tank in use, one 3" suction line running along path* A-B-C-D *serves as many of the six burners as are turned on. From point* D *on, one 3" suction line goes to the four burners in the first boiler room, while one 2½" suction line goes to the two burners in the second boiler room. Connected to one 3" suction line, these six automatic 75 gph burners perform splendidly, and the plan is to connect still one more burner to this suction line. There'll be seven all told. But don't take the appearance of this drawing as a blanket recommendation to connect more than one oilburner to a suction line!*

NEW ECLIPSE FAN-TYPE COMBINATION GAS & OIL BURNER

Changes to gas or oil fuels instantly, automatically



It's a complete package . . . ready for industrial and commercial heating installation

Here are the *facts!* Operates at peak efficiency with gas or oil. Burns mixed, natural, or LP gas (800 BTU to 3200 BTU)—no. 1, 2, or 3 fuel oil. Snap-switch changes Burner instantly to fuel selected. Automatically sets all necessary controls in operation.

"Clean-fire" starting delays fuel until blower delivers correct air for perfect combustion. Direct, electric spark ignition for oil—pilot ignition for gas. Safe, positive starting. Electronic control provides 100% efficient flame failure protection. New, built-in tuyere completes exclusive "rotary flame" action of burner.

It's a complete burner installation. Nothing else to buy or install. Just connect gas and oil lines, wire to power source and limit controls, and it's ready to go! No tuyere ramming. No bricking. No complex adjustments.

Has unlimited commercial and industrial uses. Capacities from 400,000 to 2,250,000 BTU. Available now.

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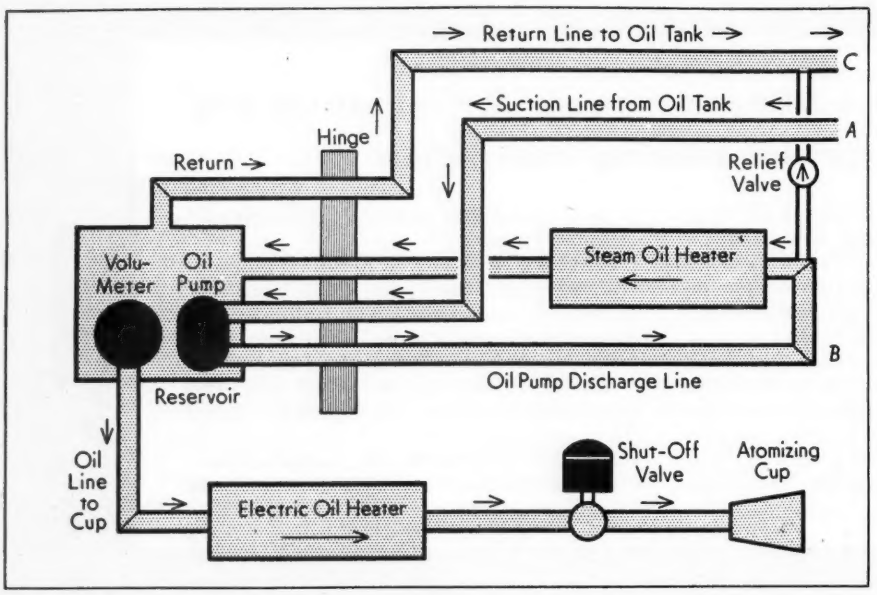
"CFE" combustion control set-ups, made by the Cleveland Fuel Equipment Company, are something that Lloyd Hunt can rave about. Little wonder! His CFE set-ups have given him the big-boiler-room performance he has aimed for; without these set-ups, he would not have the oilburner performance and low oil consumption he now has. Dollar volume and profits also are involved in Hunt's enthusiasm for CFE combustion controls. First, the controls themselves bring in business and profit on a direct basis. Second, indirectly but very definitely they help sell more burners because they lead to better burner performance and higher efficiencies.

Wheelco Flame-otrol electronic safety controls give Lloyd Hunt more to become enthusiastic about. On the one hand, he installs them because he wants his jobs 100% safe and dependable. He declares he simply has to install the best electronic controls he can buy. On the other hand, installing these controls represents more business and more profits. To top off these factors, tremendous gratification results from engineering, selling, and installing the Wheelco systems. This electronic control work satisfies Lloyd Hunt's urge to be aggressive, creative, and ultra-modern.

Diag. 1 is a bombshell to many burner dealers who abide by the dictum that on a multi-burner installation every pump-type burner should have its own suction line. To such dealers and to other burner specialists who are of the individual-suction-line religion, we point out emphatically that the appearance of Diag. 1 here is not a blanket recommendation to connect more than one burner to a suction line. We know that connecting even two burners to one suction line has on many installations led to troubles of air-binding, loss of prime, one burner's stealing the suction-line oil away from the other, and other troubles. We know that certain burners connected to a single suction line were gotten out of suction-line trouble only through the installation of a suction line for each burner. Light fueloil jobs having many burners in one boiler room often have a wall pump that feeds all the burners by gravity, thus avoids a separate suction line for each burner and at the same time avoids the troubles that might result from connecting more than one burner to a suction line.

Despite all those things, here we must point out emphatically that the single suction line plan of Diag. 1 works beautifully on this installation. Diag. 2, which will be discussed presently and which deals with the oil-handling scheme of these Iron Fireman burners, has to do with why Diag. 1 works beautifully. Burners of other designs and makes may not do well with this suction line arrangement.



Diag. 2—*These 75 gph Model* RAH *Iron Firemen burners have four-port hinges (four oil line connections at each burner) for reasons this drawing makes clear. Bear in mind this job has six 75 gph burners, and that the pump in each burner handles 200 gph. Point "A" in this diagram identifies the suction line through which oil flows to the pump at 200 gph. All of this oil comes out of the burner hinge to point "B," then flows through the steam-type oil heater . . . then goes into the burner again, keeping the large reservoir full of hot oil. The Volumeter (a positive-displacement metering pump which is adjusted for the proper gph firing rate) obtains up to 75 gph from the reservoir, and the remainder of the oil, 125 gph or more, returns to the oil tank. See point "C."*

Air-tight suction Line

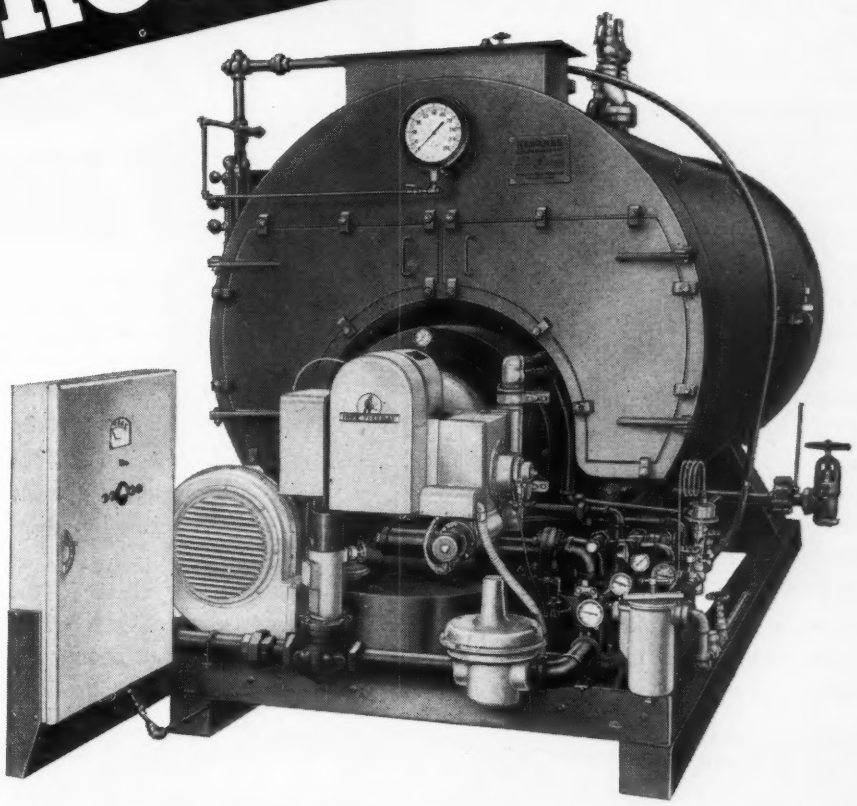
This job has a suction line that is perfectly air-tight. It has oil lines of the ample sizes that avoid even moderately-high vacuums in the suction lines. It has exceptionally complete, oversize equipment to heat the No. 6 oil. It has no long burner "off" periods, for high pressure steam is maintained throughout the year. It has burners with oversize pumps; each of the six burners is rated for a maximum firing rate of 75 gph, and each has a pump that handles 200 gph. All these factors are advantageous and help the successful operation of six burners connected to one suction line, but this may not hold true for another installation being planned by another dealer who handles another make burner.

Oilburners Nos. 1 to 4 in Diag. 1 fire two Babcock & Wilcox straight-tube boilers, vertically baffled and rated at 300 hp each on the basis of 10 sq. ft. per horsepower. Of course there are two burners to each boiler. The boilers are fired to produce 150% of nominal rating, each boiler being fired at the rate of 150 gph. The B&W boilers have fireboxes 9′ 4¾″ long, measured from burner snoots to back walls. Snoot height is 42″ above the firebox floor. Distance from snoots to water tubes is 60″. Fireboxes are 88″ wide. Burners are 44″ apart.

Burners Nos. 5 and 6 in Diag. 1 fire two Harrisburg-Star boilers, each rated at 150 hp (10 sq. ft. basis); these are steel-firebox water-tube boilers. They are fired at a maximum rate of 60 gph each. Lower-capacity burners would have been adequate for these

KEWANEE and IRON FIREMAN

- *For oil, for gas, or oil and gas firing*
- *For every commercial and industrial application*



Jointly announce a NEW boiler-burner UNIT

Two outstanding companies in their respective fields—Iron Fireman and Kewanee—have combined their engineering talents and their long experience in designing and producing this unique new boiler-burner unit.

Every part has been skillfully engineered for balanced operation to give users what they want; efficient utilization of fuels, with resulting low-cost steam; and fully automatic, dependable performance.

The burner, including all controls, built-in forced draft fan and oil pre-heating system, is completely assembled, wired, tested and shipped to the installation site from Iron Fireman. The boiler, completely assembled with all of its essential elements, is shipped from Kewanee. Matching connections are provided for quick, easy installation.

Available for high pressure steam in sizes with outputs ranging from 52 to 456 h.p., 125 and 150 lb. working pressure, and also from 5470 EDR 15 lb. steam or 30 lb. water. These units may be automatically fired with No. 6 or lighter fuel oils, gas (either high pressure or as low as 2 oz.) or a combination of both fuels.

Send for this 14-page catalog

This catalog, produced in full color, gives COMPLETE information on all sizes and models, including *detailed specifications.*

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Name_____

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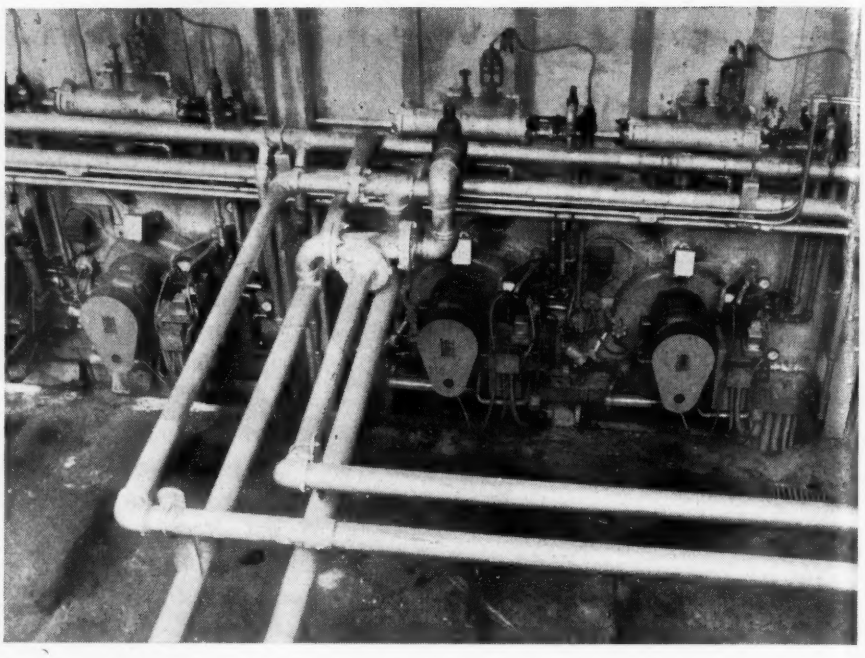
KEWANEE-ROSS CORPORATION
105 Franklin Street, Kewanee, Illinois

two boilers fired at 60 gph maximum, but 75 gph burners (the same size used in the B&W boilers) were installed for the sake of standardization; the job has six burners of the same size. All the fireboxes are engineered on the basis of 35,000 Btu heat release per hour per cubic foot of combustion space.

With the left-hand tank in Diag. 1 shut off, the suction-line oil flow is along path A-B-C-D-E to header F-E-G, for the first four burners. The piping along this entire route, including header F-E-G, is three-inch size. The lines down to burners Nos. 1 to 4 is two-inch size. The lines to the two burners in the second boiler room are two and one-half inch size. In the near future, a third burner will be installed in the second boiler room. That will put seven burners on one three-inch suction line, instead of the present six. The return piping follows the identical pattern of the suction-line piping.

At the point marked "X" in Diag. 1, there's a relief valve set for 20 lbs. pressure to protect against excessive pressure in the return lines in case the valves for the two tanks are set wrongly and permit no return of oil to the tanks.



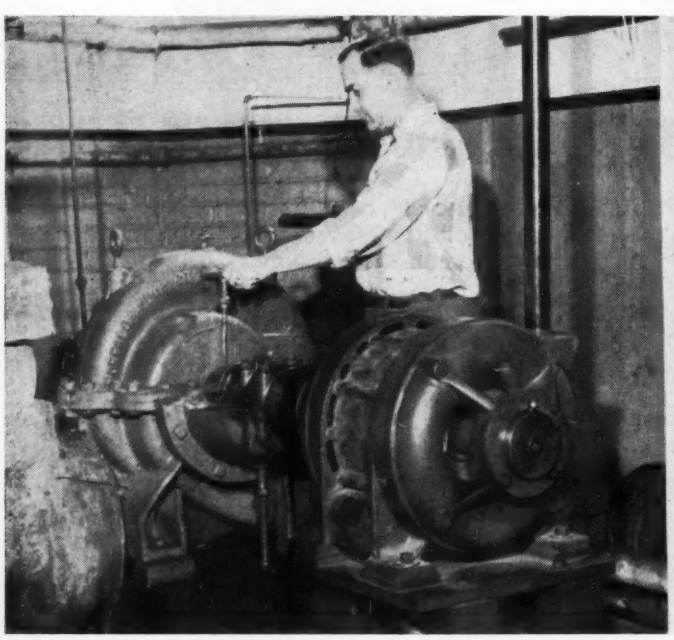
Overhead view *of the boiler room, which brings out clearly the overhead suction line and return line. On the fronts of these B&W boilers and above the oil-burners are mounted the steam-type oil heaters and the temperature regulator valves that control the flow of steam to these heaters. Notice the oil lines are not insulated; the uncovered lines work out very well on this installation.*

Located at each burner is a 1" oil strainer, also one ball-check valve for the suction line and another for the return line, and a 2" suction-line shut-off valve.

Here's a big point. Close to the suction-line connection of each burner is a vacuum gage that shows the amount of vacuum developed to draw oil to the burner. These gages never show a vacuum higher than 5", and often show zero, no vacuum.

Diag. 2 indicates schematically the four-port hinge of these Iron Fireman burners. The burners can be swung open, thus have hinges, and these include four oil line connections.

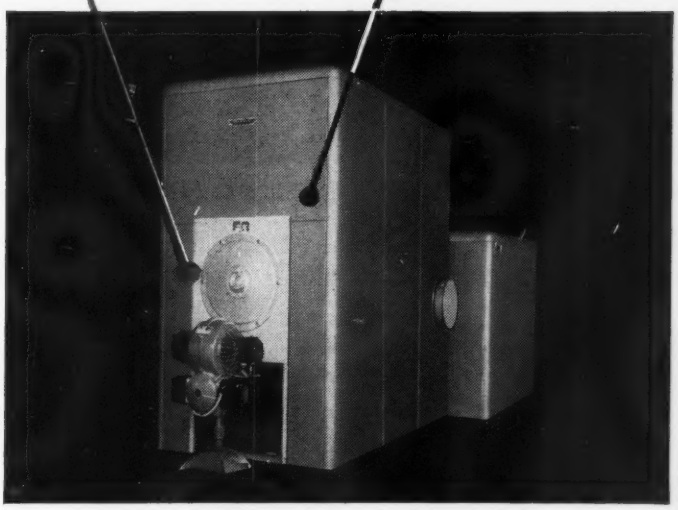
Oil is drawn from the tank at the



A 50-horsepower *electric motor (left), drives this 10" circulator, used to provide forced-hot-water heating. A 6" circulating main made up of 15 miles of pipe provides hot-water heat for 14 buildings of the hospital.*
Each *of the six burners has its own steam-type oil heater; here's a close-up of one of them and its Lawler Type S 3/8" oil temperature regulator valve. The regulator has a range of 120° to 180°; is set for 160° fueloil. Lloyd Hunt, president of Automatic Firing, Inc., Buffalo, makes some notes.*

industrial heating

industrial ventilation



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rate of 200 gph. See the "A" in Diag. 2. The suction line from "A" to the 200 gph oil pump in the burner accounts for one of the hinge connections. The output line of the oil pump, running to point "B," accounts for the second hinge connection. Oil flows then to the steam oil heater, at the rate of 200 gph. Each burner has its own steam oil heater that uses steam at 25 lbs. pressure, reduced from 100 lb. saturated boiler-pressure steam. Each heater has a rated capacity of 115 gph of fueloil, heated from 70° to 170°. According to Lloyd Hunt, who supplied all the job data given in this article, these heaters are regulated to provide oil at 160° and prove to have ample capacity for this.

Hot oil thus pours into the reservoir on the burner at the rate of 200 gph, and the line connecting the steam oil heater to the reservoir accounts for the third hinge connection. As the Volumeter (a positive-displacement eight-piston metering device) takes a maximum of 75 gph from the reservoir and meters this to the atomizing cup, the return line flow rate is always at least 125 gph. As the diagram shows, the return line accounts for the fourth hinge connection.

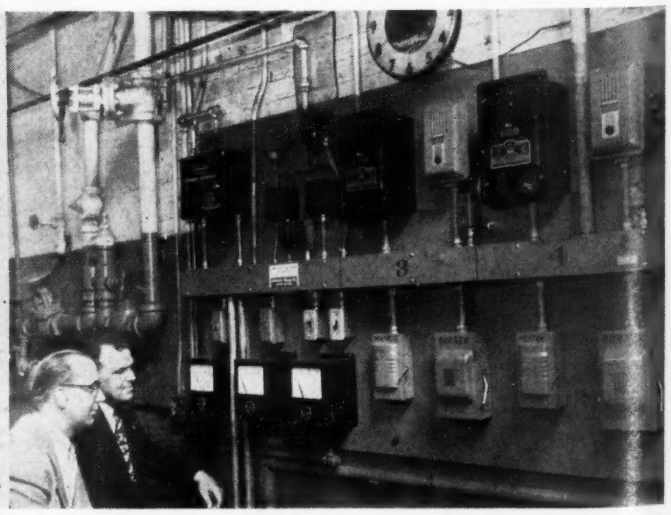
Diag. 2 shows the electric oil heater in the cup line of each burner. This is a two-switch Wells five-kilowatt heater, using one switch for automatic temperature control and the second switch to prevent a burner start-u while the oil in the electric heater i at too low a temperature for proper ignition. The electric oil heater may be cold because its main switch has been open for hours. Turning on switches and trying to start the burner will result in a delay, for the electric oil heater must come up to the proper temperature before the second switch in the heater closes and permits the burner to start.

The relief valve in Diag. 2, near the letter "A," simply protects against the pump developing excessive pressures under any circumstances, even for example with the oil tubes of the steam heater plugged or with an oil valve in the heater line wrongly shut off. If the pressure at "B" exceeds the 25 lbs.

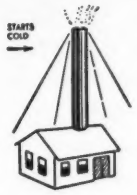
The control board *(upper left) for one of the B&W boilers. At the top left is a remote-reading flue gas thermometer; then come draft gages to indicate the over-fire draft and last-pass draft. The over-fire draft gage is also a controller, regulating the position of the boiler's outlet damper. All the combustion control equipment is* CFE *(made by Cleveland Fuel Equipment Company). The Wheelco Flame-otrol electronic safety control is also mounted on the panel.*

Close-up *(lower left) of one of the Wheelco electronic monitoring devices on the front of one of the B&W boilers. When a burner gets the signal from its pressure control to start up, first the Wheelco equipment pre-checks itself. It must be in safe working order, else the oil can not be turned on. Second, the Wheelco equipment checks for proper burning of the gas pilot. The oil can't be turned on unless the gas pilot is burning properly. Third, with the gas pilot burning properly the oil flame is turned on . . . a small flame at first. With the small oil flame monitored electronically, the Wheelco system permits continued burner operation, and permits an increase in oil flame size.*

The control panel *(below) for the two 150 hp Harrisburg-Star boilers. These are boiler #3 and #4, whereas the B&W boilers are numbered boilers #1 and #2. Two steam pressure controls are mounted on this panel, being connected to the boiler header by steam lines. This arrangement makes for easier adjustment and servicing of the steam pressure controls than if they were mounted high.*

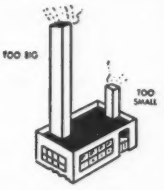


SIX CAUSES OF POOR CHIMNEY DRAFT



1. COLD STACK GIVES NO DRAFT

When chimney has become chilled, furnace has no draft when it is started up.

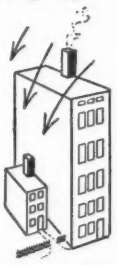


2. WRONG SIZE CHIMNEY

Boilers of different sizes need chimneys of different sizes.

3. TOPOGRAPHY AND WIND COMPLICATIONS

Chimneys near mountains or cliffs give reverse draft when wind is wrong way.

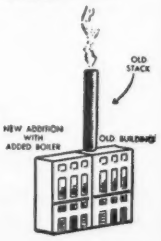


4. TALL BUILDING NEARBY GIVES DOWN DRAFT

The same thing happens when a chimney is blanketed by a large building nearby.

5. AIRFIELD OR OVERHEAD HIGH TENSION WIRES

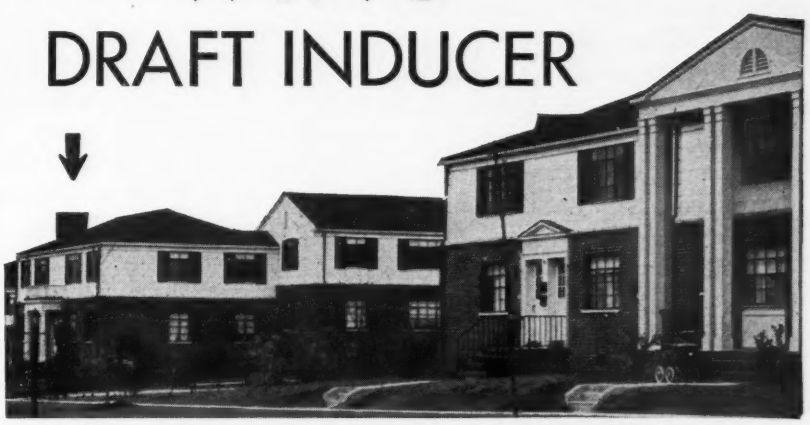
Chimneys must be low near airfields or under high tension wires..



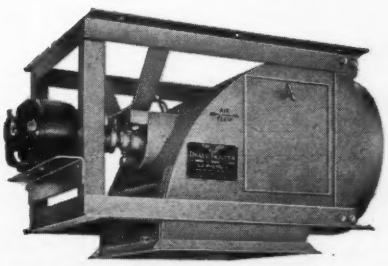
6. BOILER CAPACITY INCREASED

Where boiler capacity is increased with same stack, draft inducers must be installed to insure adequate draft.

Motorized Chimney Draft with the WING DRAFT INDUCER



SOLVES THE PROBLEM OF ADEQUATE DRAFT REGARDLESS OF WIND, WEATHER OR LOCATION AND WITHOUT TALL, UNSIGHTLY, COSTLY STACKS



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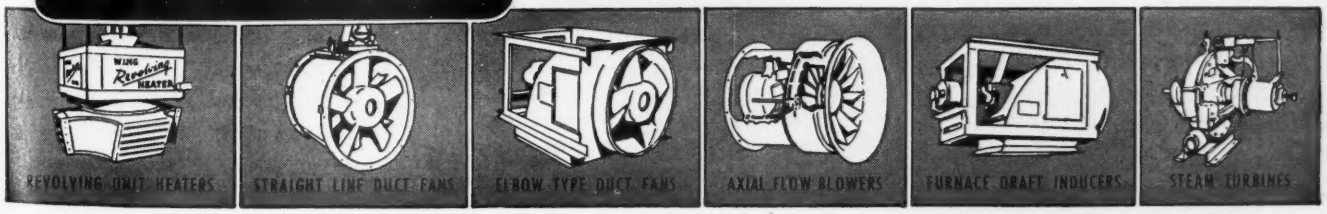


for which this relief valve is set, the valve opens, permitting oil to flow from point "B" to the return line. There can't be a pressure higher than 20 lbs. in the return line, since a valve at point "X" in Diag. 1 protects against excessive return line pressures even with the valves of both 3" returns to the tanks wrongly set in their closed positions.

As a rough idea of this, the temperature of the oil entering the pumps on the burners runs between 100° and 130°, depending on how many burners are being used and the gph rates at which they are firing. The temperature of the oil reservoirs is uniformly 160°, thanks to the excellent performance of the well-installed temperature regulating valves that control the flow of steam to the steam oil heaters.

The use of the CFE electrically-operated sequence draft control, in combination with the use of the Wheelco electronic safety control, results in burner performance which is truly marvelous to old-timers not familiar with these control set-ups.

The Control set-up

Here's an idea of this:

1. A burner is supposed to start. The uptake or smoke breeching damper of the boiler opens wide, as the first thing that happens. A limit switch affected by the movement of the damper then reports that the damper is wide open, as it should be for a burner start-up. The Wheelco Flame-otrol panel is powered next and goes through its proving cycle. After the okay of the prove cycle, the gas pilot flame of the oilburner is turned on. Proper burning of the gas pilot then must be proved electronically. If the gas pilot proves 100% safe and healthy, then the Flame-otrol panel causes the oil valve of the burner to open. The burner motor was started on the proving of the Flame-otrol panel, thus the motor and pump have come up to speed by the time the oil valve opens. The auxiliary switch of the electric oil heater had to indicate proper oil temperature in the heater, before the burner could attempt to start. Simultaneously with the opening of the oil valve (which gives a low gph firing rate because the burner has a low-fire start feature), the Cleveland Fuel Equipment control starts regulating for proper over-fire draft. If on an attempted start-up there's no okay from the gas pilot (electronically through the Flame-otrol set-up), then the burner's oil valve cannot open, and the uptake damper remains wide open. Approximately 40 seconds after the gas ignition should start, the oilburner will shut down if there's no okay from the gas pilot or the eye that monitors the oil flame.

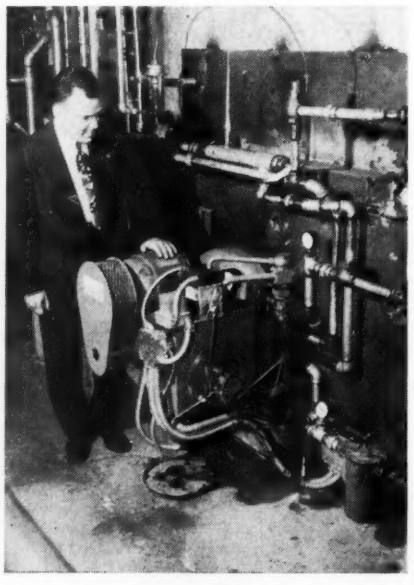
2. Having thus started properly at a low starting gph rate, the burner runs with over-fire draft controlled by the Cleveland Fuel Equipment control set-up. It's something out of this world, and it scores up high combustion efficiency, in maintaining the proper draft over-fire regardless of the chimney draft or the rate at which the boiler is being fired. CFE over-fire draft equipment is used on this installation mainly to gain the controlled over-fire draft feature. Thus the burner now is running normally, with controlled over-fire draft. The flame increases from the low-fire-start size to maximum size (to build up the boiler pressure, if the pressure is so low as to require the maximum size oil flame), and from then on the size of the oil flame is modulated to match the load. If the burner's smallest flame tends to develop higher steam pressure than is desired, the burner stops automatically. It will re-start automatically when the steam pressure drops a few pounds. Only an exceptionally light load on the boiler will cause the burner to stop and start.

3. When the oilburner stops, the boiler's uptake damper closes; the burner is set automatically for its low-fire start.

4. With two burners in each of the B&W boilers, either may be run with full benefit of the automatic controls.

5. With both oilburners of one boiler running, one dual potentiometer master control, affected by the steam pressure of the boiler, sets both the burner flames to be of equal size.

6. If one burner is running, turning on the other burner in the same boiler causes the uptake damper to open wide. Thus the uptake damper is open every time a burner is trying to start up, even though you might say this is "just for try."



This burner *fires one of the Harrisburg-Star 150-hp boilers at a maximum firing rate of 60 gph. Notice the great size of the fueloil reservoir on the burner. Burner is a modulating-flame, low-fire-start type; there's a vacuum gage at the output side of the strainer in the suction line of this burner (see it, to left of the strainer?); the temperature-sensitive bulb of the Lawler oil temperature regulating valve, which controls the flow of steam to the steam heater, is carefully located in an enlarged section of pipe located on the boiler front, right over the burner.*

Instruments Used

To wind up proving that Lloyd Hunt's burner set-up on this job is complete and modern, here's a list of the instruments on the job:

1. Good remote-reading stack thermometers, one for each boiler, made by CFE.

2. Over-fire draft gage, and over-fire draft controller, made by CFE.

3. Last-pass draft gage, made by CFE.

4. Hays Corporation CO_2 indicator and recorder, used for the B&W boilers.

5. Complete electronic controls for every burner, Wheelco's Flame-otrol.

6. For low-fire starting and modulated firing, burner-mounted modulating motors made by Minneapolis-Honeywell.

M-H Industrial Division adds 34 sales Engineers

THIRTY-FOUR sales engineers were added recently to the field sales force of the industrial div., Minneapolis Honeywell Regulator Co., Minneapolis, Minn. The new appointees, all recent graduates from the company's industrial instrument training school in Philadelphia, mark an overall increase of 15% in the field sales group this year, O. B. Wilson, field sales manager, said.

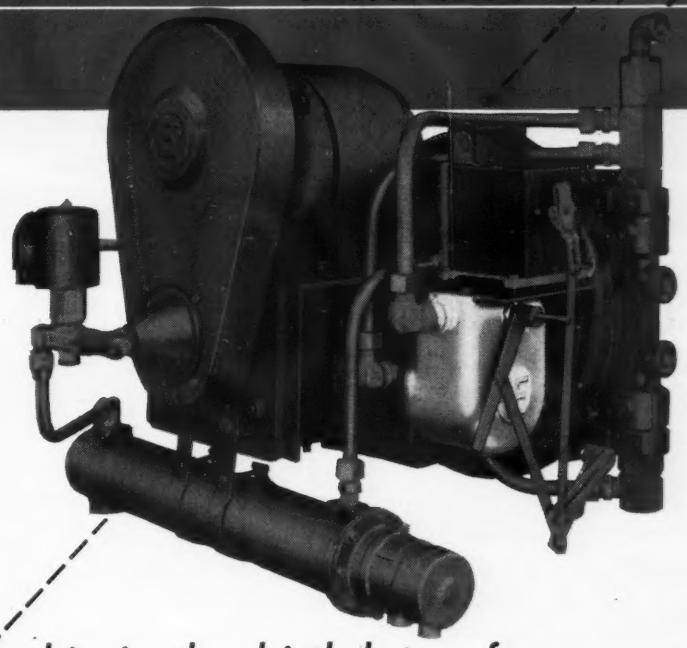
The new salesmen who will be assigned to 27 cities in 22 different states are: Edward J. Reulbach, New York; Kenneth Ryan, Ralph J. Fittipaldi and John P. Reynolds, East Orange; James E. Vanderveld, Boston; Richard E. Howard, Hartford; Joseph M. Heinold and Richard L. Kanehl, Buffalo; Don P. McAdoo, Baltimore; Albert J. Walcek, Washington; Robert H. Branch, Roanoke; Wilbur A. Dixon, Atlanta; Stephen M. Kennedy, Jacksonville; James T. Emerson, Greenville; John H. Buri, John B. Freeman and John Monsay, Philadelphia; Anthony J. Schneider, Cleveland, and Robert W. Meyer, Cincinnati.

Also: Thomas C. Farrell, Detroit; Warren G. Myers, Toledo; William B. Wells, Pittsburgh; Richard J. Bartoli and William Lyford, Chicago; Robert Lederer, Davenport; Robert G. Steel, St. Louis; Vincent T. Coffman, Tulsa; Thomas W. Clark, Denver; Joe C. Graham and Vernon S. Robyn, Seattle; Dwain M. Bates, Spokane; Richard C. Butler, San Francisco; Royce N. Crain, Los Angeles and William A. Gill, Indianapolis.

In addition, recent transfers include: Denis J. McDowell, from Chicago to Milwaukee; John H. Morrison, Greenville to Knoxville; Lester E. Dotts, Philadelphia to East Orange; Edward Nikstenas, Birmingham to Nashville; William J. Kirby, Los Angeles supplies sales to instrument sales; William P. Ryan, East Orange supplies sales to control device sales; Charton S. Slenning, Portland, Ore., service to industrial sales; Edward S. Crane, Buffalo to Philadelphia service; Thomas H. Jenkins, Chicago to Louisville, and Paul R. Sharadin, service to sales, El Paso.

DEVELOPMENT REPORT

New Enterprise Metering Pump Okd on final tests. December 14, 1944



this is the birthdate of

MEASURED RATE FUEL OIL METERING

On December 14, 1944 a new, more accurate cost-saving means of measuring fuel oil delivery to oil burners was born in the shops of Enterprise Engine & Machinery Co.

Mark that date. If you use a heavy fuel oil burner, you have reason to be thankful. Because for the first time here was a metering pump that precisely *measured the rate* of fuel delivery to burner regardless of temperature or viscosity change.

In January 1945, the first operative unit was installed in Seattle. Today, imitated but still unequaled, Enterprise Measured Rate Metering Pumps are working efficiently on oil burners throughout the world.

Metering Oil to Rotaries

Complete engineering story of the Enterprise Fuel Metering Pump was told in the November 1951 issue of Fuel Oil and Oil Heat. If you would like to refer to it, we will be happy to send you reprints.

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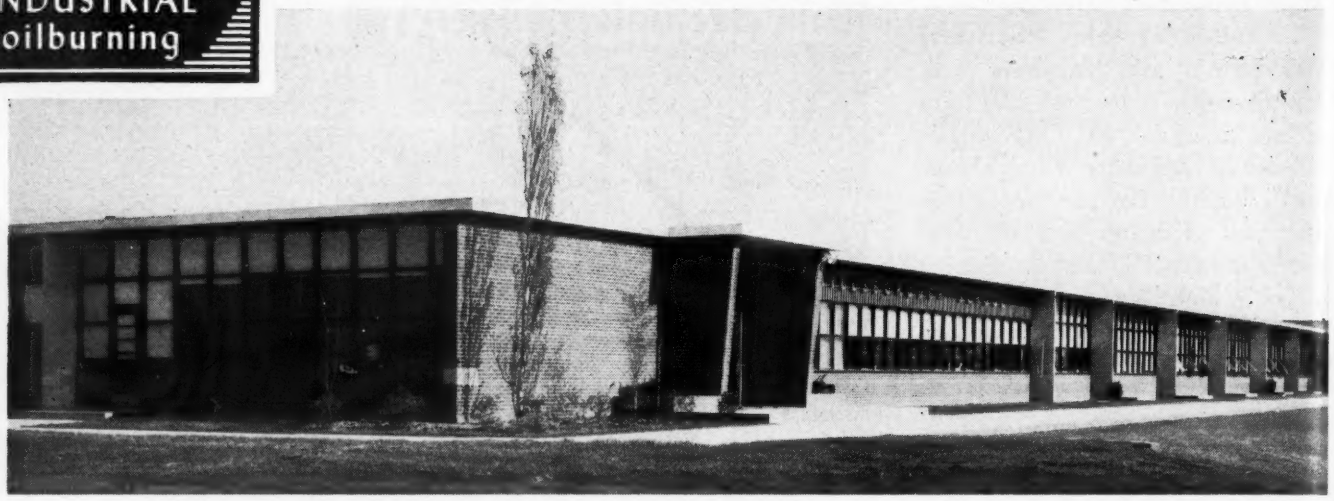


Exterior *of Hillsborough Township School, Somerset County, N. J., whose heating and ventilating system has been integrated with modern architectural design to achieve substantial cost savings and functional advantages.*

Hillsboro School built around its heating System

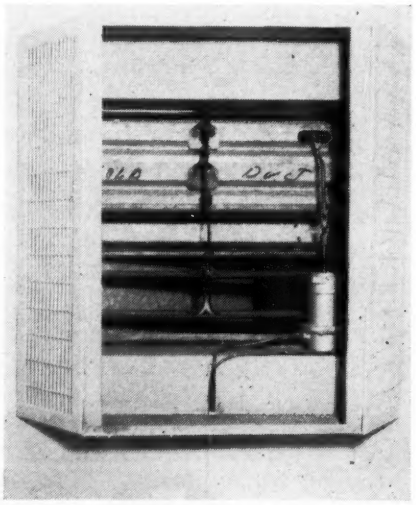
BY LITERALLY building the school around its direct-fired warm air heating and ventilating system substantial savings were effected last year in the construction of the Hillsborough Township elementary school in Somerset County, N. J. Recognizing the importance of maintaining comfortable temperatures in school classrooms and keeping initial costs within the budget, Jay C. Van Nuys, Somerville, N. J., architect, collaborated with the consulting mechanical engineer, Raymond Althoff, also of Somerville, before completing the design of the school.

As a result, total cost of the heating and ventilating system amounted to about 81¢ per building sq. ft. and the installed cost was less than 7% of the total cost of the building, including landscaping, site development, kitchen equipment and other essentials, except classroom furniture.

The system furnishes to all 14 classrooms, offices, clinic, library, restrooms, kitchen and combination cafeteria-assembly hall a constant volume of 100% fresh, filtered outside air during school hours. An air blending discharge outlet in each room solves the problem of temperature control and compensates for temperature fluctuations caused by solar heat gains, lighting fixtures and body heat of classroom occupants. Nor is it necessary to open windows or doors for ventilation.

Two Dravo "Counterflo" oilburning, direct-fired space heaters, each having an output capacity of 1,750,000 Btu/hr., are employed for heating. The units handle the job of heating some 20,000 cu. ft. of outdoor air per minute for the completely automatic heating-ventilating system.

Part of the system's economy lies in the utilization of dead space over and under the main corridor for air transporting ducts. Under the corridor is a tunnel 10 ft. wide by 4 ft. deep that receives air exhausted from the rooms. At each end of the tunnel a 10,000 cfm blower discharges air to the outside. A 4-ft. by 5-ft. dampered opening from the tunnel into the air supply plenum chamber under the Dravo heater room permits automatic operation of the system on recirculated air during periods of non-occupancy.



A closeup *of the air blending discharge outlet used in each room, with a room thermostat controlling an air motor that operates double linkage dampers on hot and cold ducts.*

The ceiling of the main corridor provides a space 10 ft. wide by 3 ft high, leaving the corridor itself 9 ft. high. The air space in this false ceiling has been divided into two chambers by continuous steel decking, insulated with 1½" of Zonolite insulating concrete. The two chambers are air supply ducts for the classrooms, one, the "hot" duct, carrying 130° air, the "cold" duct handling 70° air.

A constant volume of air is taken from these supply ducts at ceiling height in each room, with manually set volume dampers at each outlet used to balance air flow in the entire system. Each room has its own air-mixing grilled register to blend air from the hot and cold ducts as called for by the room thermostat. The thermostat controls a small air motor that operates the dampers through double linkage. The registers diffuse the air to the right and left to establish uniform distribution in the room.

Along the exterior wall and one side wall slotted continuous openings have been cut in the floor for removal of air from each room. The 1½" openings along the exterior wall are behind

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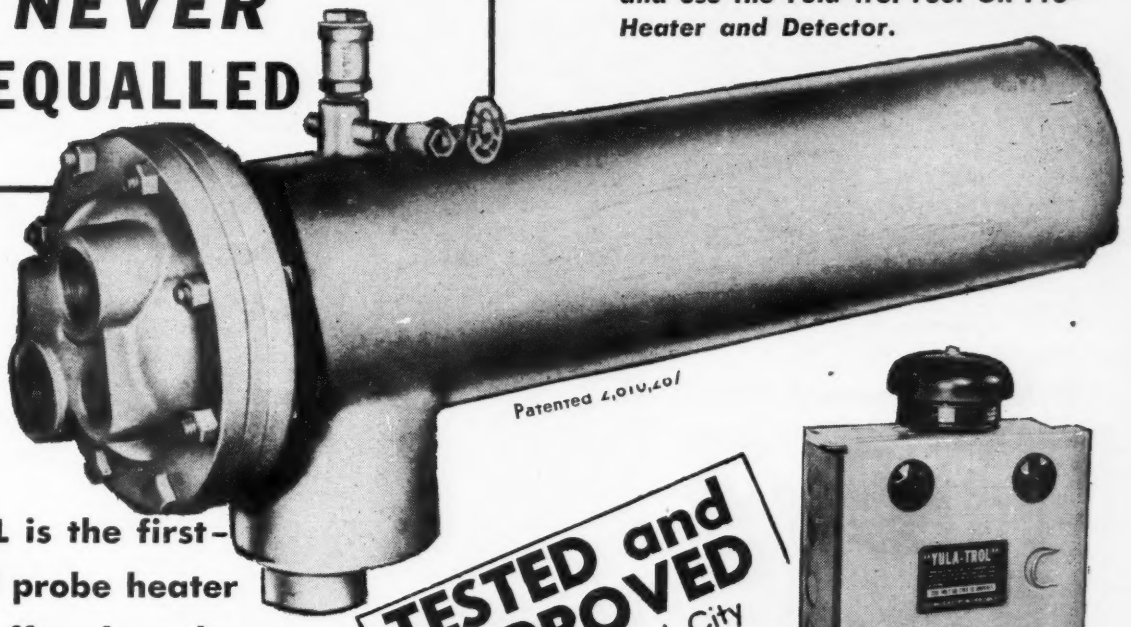

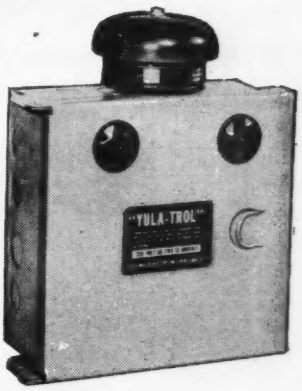

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built-in bookcases; the 4" openings along the side walls are inside clothes lockers. Air exhausted through the openings flows under the steel deck floor and empties into the corridor tunnel through the cells of every third cinder block which has been laid horizontally along the top course, thus eliminating the need for ductwork. The exhaust air actually has no functional heating purpose, but it does help to keep the floor warm.

Using a program clock control arrangement the system operates automatically day by day and week by week, with the school's janitorial staff making what few adjustments are needed.

The controls are set to bring in 20,000 cfm of fresh air to be heated and delivered continuously to the rooms. Air is drawn into a plenum chamber through a 12-ft. by 7-ft. bank of filters, forced upward by the 20,000 cfm fan into the bases of the two Dravo heaters mounted on the floor above the chamber. Part of the air is by-passed around the heaters to make up the cold duct supply and the remainder passes over banks of economizer tubes carrying flue gases to the stack and then sweeps the heater's stainless steel combustion chamber. It

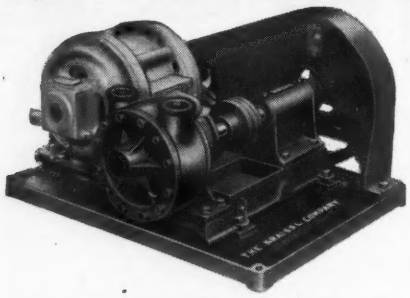
Upper left: *Burner side of the two Dravo "Counterflo" oilfired warm air heaters installed in the elementary school in Hillsborough Township, Somerset County, N. J. The burners are controlled by a ductstat in the supply air duct.*

Upper right: *Here are shown the twin ducts coming from the heater room into the supply air chambers above the corridor. Insulated hot duct with 130° air is on top and cold duct with 70° air is on the bottom.*

Lower left: *Fresh air intake in the wall under heater room, showing a portion of the filter bank through which all air passes before entering the heaters. The dampers at the left of the picture are operated automatically.*

Lower right: *Inside the exhaust air tunnel. A blower at each end forces air to the outside, with exhaust air pulled from beneath the floor of each room in the school through cells of concrete blocks laid horizontally.*

KRAISSL SINCE 1926 . . . in the application, design & mfg. of pumps — separators — hydraulic equipment



Class 60 PUMPS

pull cold oil!

After many years of outstanding on-the-job performance, the Kraissl "60" pump has been acknowledged as one of the most efficient for heavy oil service. For direct burner service installations—or booster service on pump type burners. Of the internal gear type, the "60" is machined to close tolerances—for maximum vacuum characteristics with heavy oil. The outstanding design advantage is the ball bearing, V-Belt reduction drive-connected to pump by means of loose coupling, which eliminates side deflection from pump shaft. Suction and discharge sizes from ½" to 2". Capacities, 75 to 2100 GPH; pressures to 100 psi.

Write for Bulletin A-1193

Standard & High Pressure

SEPARATORS

Adequate strainers for both suction and discharge service are essential on every heavy oil installation. Kraissl separators are available in single and duplex units for both standard and high pressure service. Available with Underwriters Labels from ¼" to 4"; larger sizes up to 6".

Advantages of our design are: ease of cleaning; and interchangeability of separator baskets—from coarse straining to fine filtration. Cleaning of removable separator baskets restores original efficiency—thus eliminating normally expensive replacement costs.

Ask for Bulletin A-1430

If you have any special problems—or need more information—please write us fully. You will receive a prompt and detailed reply.

KRAISSL CO. Inc.

393 WILLIAMS AVE., HACKENSACK, N. J.

discharges directly into the insulated hot duct where thermostatically-controlled, motor-operated dampers bleed some of this hot air to mix with cold air for the 70° cold duct. The hot duct has a thermostat which controls the burners of both heaters to obtain 130° air. A humidifier is installed in the duct.

Cycle reversed at night

After school hours the program clock reverses the cycle so that the fresh air intake damper closes, the return air damper opens, the two exhaust fans in the air tunnel are shut off and the system operates entirely on recirculated air. Also, if desired, the system can be operated on a mixture of fresh and recirculated air and is designed primarily for 100% fresh air operation down to 0°. If the outdoor temperature drops below this level, some recirculated air can be used.

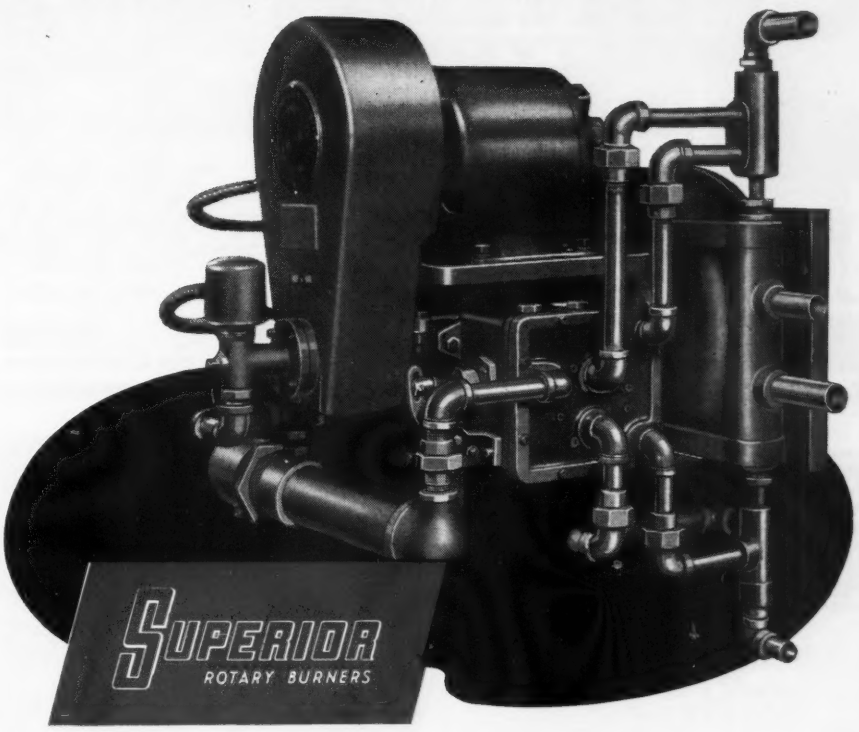
The only ductwork for the entire system is that used in the heater room, two small runs into the cafeteria-assembly hall and one hot duct for the kitchen.

The designers regard this adaptation of direct-fired warm air heating as demonstrating its practicability for large, one-story structures, the Hillsborough school being a single story, L-shaped structure with a frontage of 389 ft. and containing approximately 28,214 gross sq. ft. The system shows that central warm air can be used and controlled at long-range from the furnace and continuously provide a fresh atmosphere in which school children can study comfortably and healthfully.

❖

W. T. Gove has been named sales manager for the multiple-dwelling market by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. Gove, with headquarters in Minneapolis, will direct expanding sales of automatic control equipment for apartment buildings, public housing developments and other multiple-dwelling units. For the past three years, Gove has been in Honeywell's Boston office, handling sales to the large residence and multiple-dwelling market in New England.

designed for the dealer...



See THE DIFFERENCE AT THE POWER SHOW
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BOOTH 7-E

REQUIRE MINIMUM SERVICE

BRING REPEAT BUSINESS

BUILD DEALER PRESTIGE

- Time-tested horizontal-rotary design.
- V-Belt Drive for the high cup speed essential to efficient atomization.
- Four-Hole Hinge circulates oil through oil heater so that hot oil is on the *pressure* side of the pump, allowing you to burn oil at higher temperatures.
- Adjustable Air Nozzle provides accurate control of flame contour.
- Dual Pumps and Reservoir combined with Constant Oil Rate Control provide controlled firing regardless of viscosity variation.
- Burn any grade of oil. Also available with combined gas burner for any type of gas.
- Fully automatic in sizes to 500 bhp with dual ignition, and hi-low or fully modulating control.

Actually, Superior Rotary Burners were designed for Superior Steam Generators, but the combination of design features which made them so successful are the very factors which make Superior Burners particularly appealing from the dealer's viewpoint.

Dependability is the outstanding feature of Superior Rotary Burners . . . dependability that means fewer service calls, customer satisfaction, and prestige for the dealer. When you sell a Superior Rotary Burner, it sells *you* as a reputable dealer . . . one to be called on when new or conversion equipment is needed.

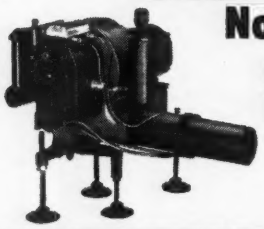
If you want to enjoy the *prestige* and *profit* that comes from owner satisfaction, lower operating costs, and fewer service calls; if you have the experience and the facilities; if you want to associate with one of the fastest growing, most progressive companies in the combustion field . . . write for the details today.

for performance you can **BANK** *on*

SUPERIOR COMBUSTION INDUSTRIES INC.
TIMES TOWER, TIMES SQUARE, NEW YORK 18, N.Y.

SUPERIOR ROTARY BURNERS

★ RAYFIELD AUTOMATIC ★



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REDUCE HEATING COSTS... INCREASE YOUR PROFITS

Burn No. 5 heavy fuel oil. Self-contained, all electric. Self-lubricating. Many new exclusive features. Write for full details.

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Solve Bulk Tank Preheating!!!

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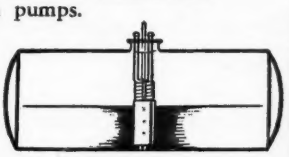
"Hot-Spot" PREHEATER

Heats heavy oils in bulk storage to proper flow temperature before they enter the suction line —takes load off suction pumps.

Heating medium — steam or hot water. Construction — all steel — connections for any diameter tank.



Write for bulletin

REMPE COMPANY
336 N. SACRAMENTO BLVD. CHICAGO 12, ILL.

COMMERCIAL & INDUSTRIAL oilburning

U. S. Radiator has Catalog covering its Unit Heaters

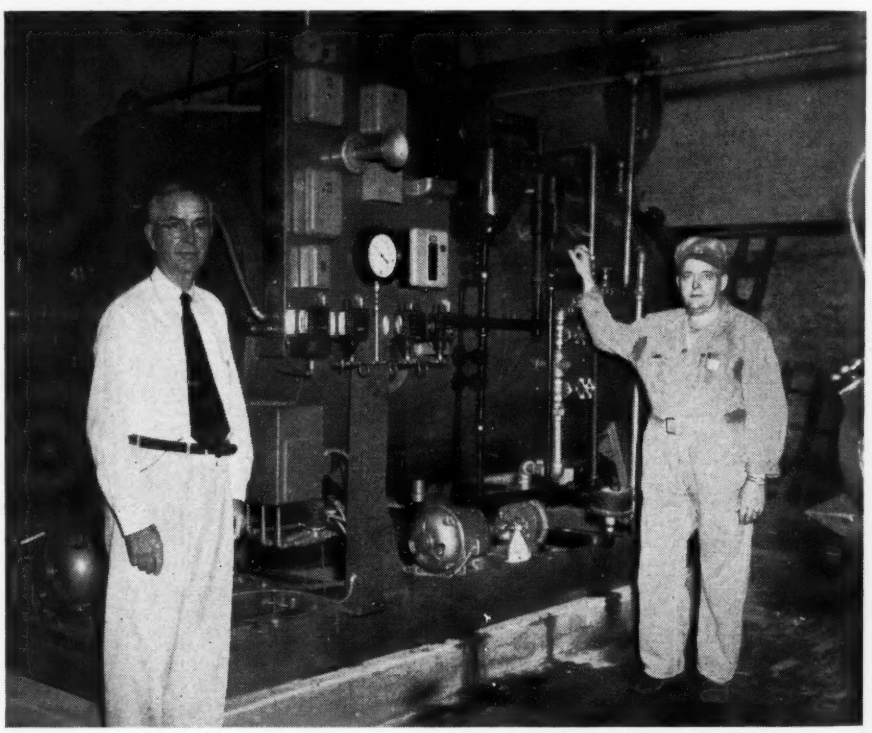
A NEW CATALOG, covering U. S. Radiator unit heaters, has been announced by U. S. Radiator Corp., Detroit 26, Mich., designed to aid those people who make calculations and layouts for heating installations as a great deal of technical data is included.

The 16-page catalog covers such points as heater location, various types of unit heater wiring diagrams, steam pipe sizes, capacity data and necessary technical information for making a unit heater layout. Each type of U. S. unit heater is illustrated.

❖

York steam Generator subs for 300 hp Boiler

AT THE California State Teachers College, California, Pa., a huge 300 hp water tube, stokerfired boiler has been found adequate in furnishing heat and steam required for all college operations during the winter months. But, during the summer, or "stand-by," months the college has faced a



Dr. Robert M. Steel, *head of the California State Teachers College, left, and William Hormel, in charge of mechanical equipment and maintenance, stand beside the oilfired York steam generator installed for summer and stand-by use.*

THE ALSTROM

"SAFE GUARD" OIL PREHEATER
- **is completely "fuel-proof!"**
- **really heats oil!**

Approved by the New York City Board of Standards and Appeals. No. 425-51-S.A.

Alstrom Feature: Double Transfer protection without sacrificing heating capacity.

• compact • ruggedly constructed
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In a full range of sizes

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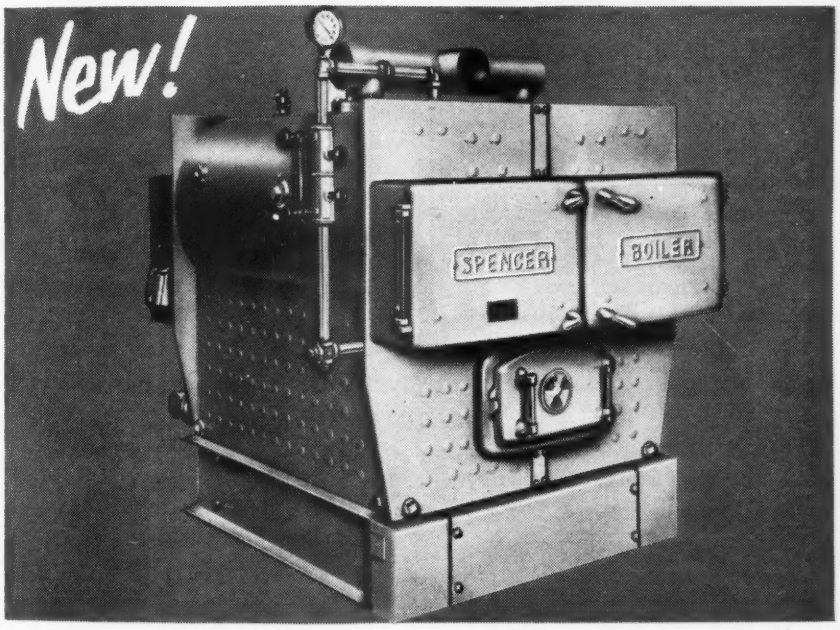
Let SPENCER Solve Your Heating Problems

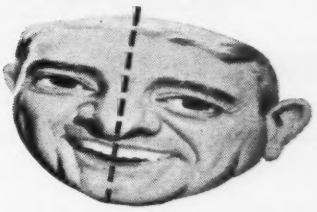
with a wide selection of boilers in more than 70 adaptable models and sizes. There's a Spencer for every building... for every fuel!

IN THE COMMERCIAL FIELD, Spencer offers an ingenious new design like this—



SPENCER'S

NEW DIVIDED LOW-WATERLINE BOILER

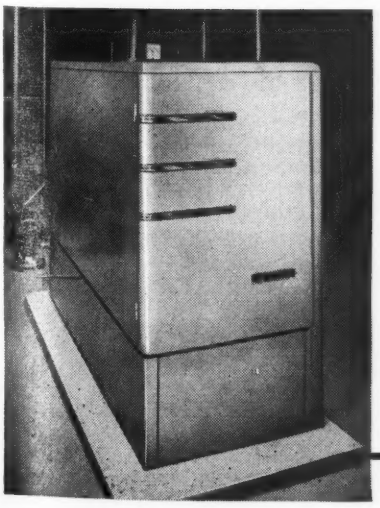


Flattened out to beat low headroom problem!

Divided for easier entrance through basement openings. Yet two watertight sections need no welding for installation!

This and other Spencer commercial boilers range in size from 3,500 to 42,500 square feet, steam.

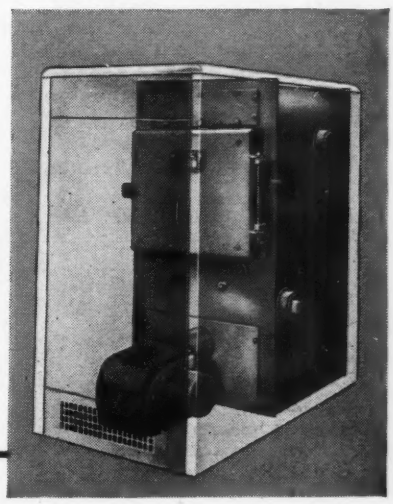
IN THE RESIDENTIAL FIELD, Spencer offers versatile lines like these—



SPENCER'S "C" SERIES—Modern steel heating boiler—smartly styled jacket, standard or extended—9 sizes ranging from 570 to 3000 sq. ft., steam—three-pass type boiler—heavy-duty doors—water-cooled frames.

SPENCER "R" SERIES—Steel heating boiler—6 sizes ranging from 320 to 1100 sq. ft., steam—peaked firebox for more efficient combustion—staggered boiler tubes for quick heat transfer—comes in standard or extended beauty jacket.

SPENCER HEATER
LYCOMING-SPENCER DIVISION
WILLIAMSPORT PENNSYLVANIA



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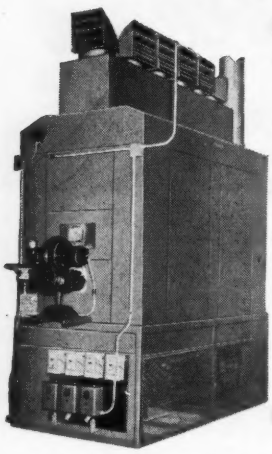
Direct Fired

SPACE HEATERS

THE MOST MODERN, ECONOMICAL AND FLEXIBLE METHOD OF HEATING LARGE AREAS



SERIES "A" FOR

- INDUSTRIAL BUILDINGS
- BARRACKS
- REPAIR SHOPS
- HANGARS
- WAREHOUSES
- SCHOOLS
- RECREATION HALLS, CHURCHES, ETC.

FIRED WITH GAS OR OIL

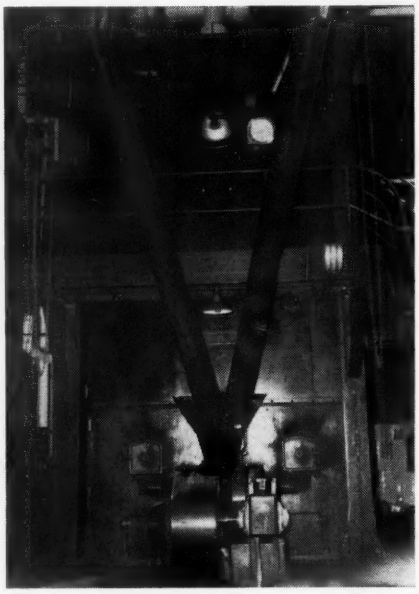
Capacities: 200,000-2,000,000 B.T.U.

(Also Suspended Furnaces, 75,000-750,000 B.T.U.)

Manufactured by

Chicago Steel Furnace Co.

9326 S. ANTHONY AVENUE
CHICAGO 17, ILL.



Front *of the 300 hp water tube, stoker-fired Oil City Iron Works boiler installed in the California State Teachers College, California, Pa. This unit furnishes all the heat and steam needed during the winter months.*

NATIONAL AIROIL BURNERS

FUEL OIL - GAS

SERVING INDUSTRY FOR 40 YEARS

- Steam Atomizing Oil Burners
- Mechanical Atomizing Oil Burners
- Low Air Pressure Oil Burners
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Detailed information gladly sent you upon request.

Automatic Oil Burners for Homes, Churches, Apartment Houses, Factory Buildings and Office Buildings.

Established 1912 — Incorporated 1917

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perplexing problem in that a certain amount of heat and steam is needed, but not nearly enough to make the operation of the 300 hp economical.

Dr. Robert M. Steel, a 25-year veteran of the college and its present head, and William Hormel, who has had charge of all mechanical equipment and maintenance for some 28 years, turned to the packaged boiler for stand-by heating and steam requirements.

The unit selected was York-Shipley's 75 hp oilfired and completely automatic steam generator. The flexibility of operation possible with this unit has shown it to be admirable for this application with the result that the college's summer and stand-by problem has been solved.

❖

Gilsulate Method insulates, potects hot buried Pipes

GILSULATE is a method developed for insulating hot buried pipes and pro-

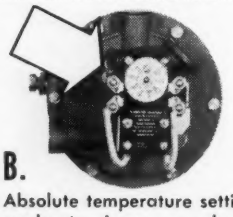
If it's Plus Sales you want—Look at

VISCOS-O-TROL

(UNDERWRITER'S LABORATORY APPROVED)

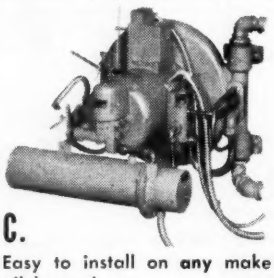
A.

Designed by **heating engineers** to provide a uniform flow of oil to the atomizing cup with positive adjustment control of viscosity.



B.

Absolute temperature settings are made to insure a clean, hot smokeless flame. No sludge, and once set, the Viscos-o-trol needs no adjustment!



C.

Easy to install on **any** make of oil burner!

PROFITS PLUS PERFORMANCE

Every Existing Installation a Plus Sale Prospect

Yes, you can make *more* money with absolute confidence by installing Viscos-o-trol* the oil pre-heater which guarantees superior performance for any oil burner. One adjustment *controls viscosity,* insuring efficient combustion of the heavy fuel of today, ready for the heavier fuel of tomorrow.

VISCOS-O-TROL®

(UNDERWRITER'S LABORATORY APPROVED)

DEALER INQUIRIES INVITED:

INSTRUMENT LABORATORY, INC.
934 ELLIOTT AVE. WEST SEATTLE 99, WASH.

tecting them against corrosion. The manufacturer says that Gilsulate is easy to apply as it does not require skilled labor, it provides corrosion protection, and permanent protection under all conditions encountered in buried lines, such as acid or alkaline ground waters, root attacks, bacterial action and so forth. Also Gilsulate is inherently water repellent.

The blended and specially sized Gilsulate is furnished for the particular temperature of the line and is poured in, filling the space around the sides and the bottom of the pipe and covering the top. Introduction of heat through the pipe fuses the material to form a plastic coating.

Made by: American Gilsonite Co., 248 So. Main St., Salt Lake City, Utah.

Circle D81 on card

❖

New Haven Railroad utilizes new M-H heating System

THE NEW HAVEN RAILROAD announced recently that it had put into service its first passenger coach to feature an electronically-controlled heating system that uses hot water containing anti-freeze instead of the steam used in old-style cars.

The new type heating system, developed and installed by the Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., is completely regulated by electronic thermostats said to be 100 times more sensitive than conventional thermostats. They are capable of maintaining even temperatures regardless of changes in outdoor conditions.

❖

Kewanee-Ross, Iron Fireman announce Boiler-burner Line

KEWANEE-ROSS CORP., Kewanee, Ill., and Iron Fireman Mfg. Co., Cleveland, O., have announced jointly a complete new line of boiler-burner units. Each unit consists of an Iron Fireman packaged burner complete with all controls and a Kewanee Scotch boiler, factory assembled with its accessory equipment for oil, oil-gas, or gas firing.

These boiler-burner units are avail-

BETTER EQUIPMENT —Means— MORE BUSINESS!

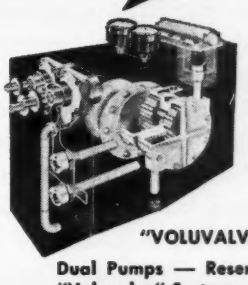
EVERY FEATURE,

A SELLING FACTOR!

Preferred Rotary Oil Burners bring together many built-in precision features . . .

- "Voluvalve" Fuel Regulation
- Dual-Pump Reservoir
- Complete Internal Wiring
- High Speed (4600 RPM) Belt Drive
- Precision Air-Oil Control
- Sure-Fire Ignition
- Extra Long Nozzle.

Preferred is precision-engineering at its best!



"VOLUVALVE"
Dual Pumps — Reservoir and "Voluvalve" Systems.

***The selling trend to PREFERRED continues. PREFERRED* Horizontal Rotary Oil Burners are the best in every respect because they are founded on a continuous background — of more than a quarter of a century — of installing, servicing, designing and selling burners.**

PREFERRED Rotary Oil Burners have maintained their leadership in the market because they are up-to-the-minute in basic design and *fully automatic in operation with the heaviest of oils.* Their advanced design makes them as modern as tomorrow and in constant demand wherever and whenever efficient, dependable combustion is needed.

SELL PREFERRED . . . see for yourself why we continue to say "easier sales — better profits — more repeat business!"

- *Write today for complete details on this outstanding rotary burner. Bulletin #175-A*

Preferred Utilities Hi-Pressure for Results Engineered

016

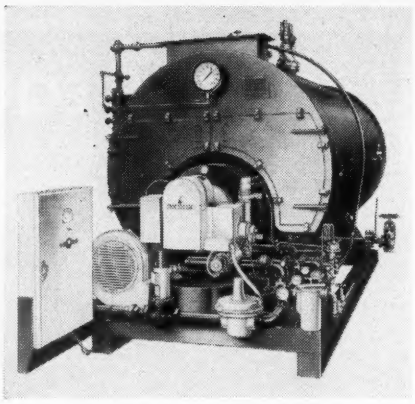
PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY · NEW YORK 23, N.Y.

COMMERCIAL & INDUSTRIAL oilburning

able for high pressure steam and water in sizes ranging from 52 to 304 hp., 125 and 150 lbs. working pressure; also for low pressure 15 lbs. steam or 30 lbs. water, in sizes from 1,808,000 Btu to 8,400,000 Btu. They may be fired with #6 or lighter fueloils, gas (either high pressure or as low as 2 oz.), or a combination of both fuels. The line thus covers a wide variety of commercial and industrial applications for heating, power and process steam.

The boiler portion of the unit is completely assembled with all of its essential elements, tested, mounted on substantial steel skids and shipped direct from Kewanee to the job site. The boilers are constructed in accordance with the ASME boiler construction code and are rated in accordance with the Steel Boiler Institute's rating code.

The burner portion of the unit, including all controls and forced draft air supply, is completely assembled,



wired and factory tested. Matching connections are provided, so that when this packaged assembly, shipped from Iron Fireman's Cleveland plant arrives on the job, it can be connected to the boiler in a very short time. All refractories are integrally mounted at the factory, thus reducing the amount of field work required in placing this combination boiler-burner unit into service.

The units are designed for forced draft operation, eliminating the necessity of a high stack. Provision need only be made for a small vent extending above the roof.

Circle D82 on card

Orr & Sembower Boilers now equipped with Voriflow Burner

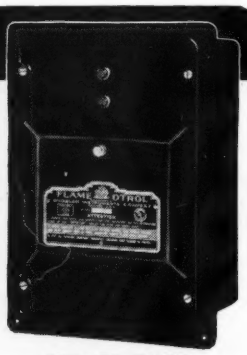
VORIFLOW, Orr & Sembower air-atomizing burner has been refined for firing its Powermaster package unit boilers. The Voriflow is designed to eliminate drooling and carbonizing and its resultant cleaning and maintenance costs. Also the Voriflow burner is engineered to hold full efficiency from the 30% lower limit up to 100% load.

Mechanically, the simplicity of the air-atomizing Voriflow burner is best suited for this particular purpose. The beryllium copper body holds the stainless steel cap over the multiple slots in the stainless steel core forming converging flow paths for the atomizing air. Only about 1% of the total full load combustion air is thus admitted with the oil for atomization which permits much closer control of the combustion air from the blower and the resultant high efficiency at light loads. Fueloil flows through the central oil tube and is picked up at multiple injection points by the individual air streams. The dams near the end of the

positive safety!

INSTANT SWITCHING ACTION with

wheelco flame-otrol



MODEL 1300

FOR ALL TYPES OF OIL FIRED BURNERS

To protect your oil fired equipment from combustion failure the Wheelco Flame-otrol has been engineered with instantaneous safety shut-off action. Response to any unsafe condition is immediate and sure. Safe-start is guaranteed . . . whether following a cold start, temperature or limit control action, flame or power failure. Resumption of fuel flow is allowed only when ignition is assured. An automatic proving period checks electronic and sensing circuits for any defect that might cause hazardous operation. Approved by the Associated Factory Mutual Laboratories and Underwriter's Laboratories.

WRITE FOR FLAME-OTROL BULLETIN F-3

BARBER COLMAN

Instrumentality

wheelco instruments division

BARBER-COLMAN COMPANY

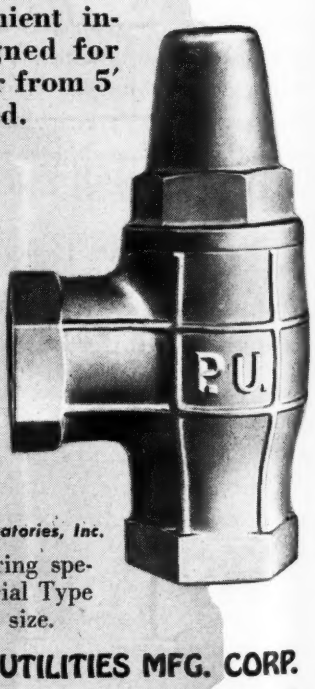
1247 ROCK ST. • ROCKFORD, ILLINOIS, U.S.A.

PREFERRED INDUSTRIAL

Anti-Syphon Valves

900 gallons per hour even with No. 6 oil...!

Angle type construction for convenient installation designed for heads up to 5′ or from 5′ to 10′ as required.



Preferred Industrial Anti-Syphon Valves can do the job better because they are designed better. A complete line of valves for pipe sizes of 1¼", 1½", 2", 2½" and 3" For use with all grades of fuel oil (including No. 6) and maximum capacity of 900 gallons per hour.

• Approved by Underwriters' Laboratories, Inc.

When ordering specify Industrial Type A and pipe size.

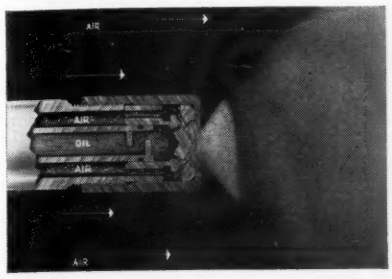
for Results

018

PREFERRED UTILITIES MFG. CORP.

1860 BROADWAY • NEW YORK 23, N. Y.

oil tube prevent dripping after shut down. The beryllium copper body and the brass air tube conduct heat back to the plenum where it can be quickly dissipated at low temperature.



Voriflow air - atomizing burners come in 16 sizes from 15 horsepower to 500 horsepower for pressures to 250 psi, for both light and heavy fueloils.

Made by: Orr & Sembower, Inc., Morgantown Rd., Reading, Pa.

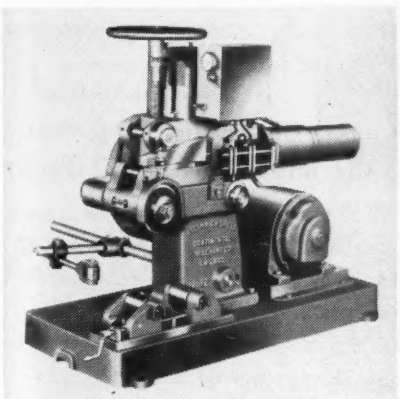
Circle D83 on card

❖

Continental Machine cuts Pipe and Tubing automatically

CONTINENTAL MACHINE CO. has developed a machine which cuts as many as 60 pieces of 12" pipe and tube per hour. It cuts smaller sizes of pipe and tubing proportionately faster.

The machine operator feeds the pipe to the adjustable set stop, steps on a foot switch and the air cylinder, precision electrical controls and air mech-



anism accurately gauge the speed at which the blade approaches the pipe. When the foot switch is actuated, the pipe starts spinning slowly as the blade engages it; then, heavy cutting pressure is exerted. The machine automatically retracts the blade after each cut.

Made by: Continental Machine Co., 1952 N. Maud Ave., Chicago 14, Ill.

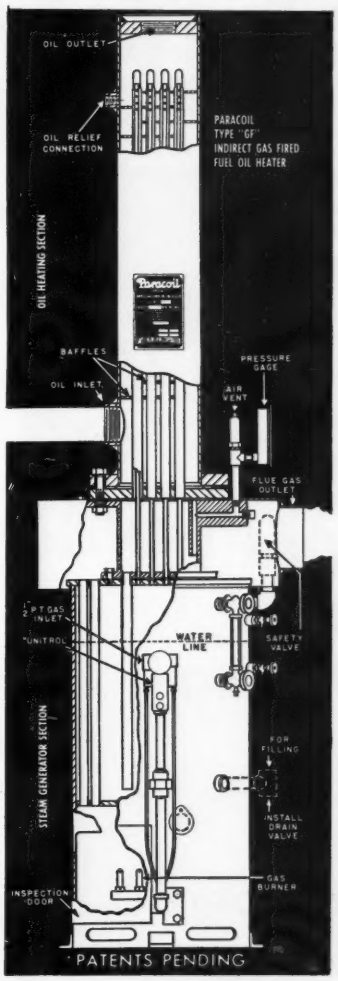
Circle D84 on card

COLD STARTS ARE EASY

ON No. 6 OIL BURNER SYSTEMS WITH THE

Paracoil TYPE "GF"*

INDIRECT GAS FIRED FUEL OIL HEATER



HOT OIL NOW AVAILABLE IN MINUTES AFTER START OF OPERATIONS

A RADICALLY NEW SOLUTION TO THE PROBLEM OF ADEQUATE OIL PRE-HEATING FOR THOSE HARD-TO-START JOBS!

The Type "GF" Oil Heater is an integrated self contained steam vapor generating exchanger using gas as its primary heat source.

However, the gas flame does not come in contact with the tubes containing the fuel oil. Instead, vapor from the lower steam generating section does the actual oil heating!

APPLICABLE TO ALL TYPES OF OIL FIRED APPARATUS!

As it is not dependent upon the unit it is servicing for the means of heating the oil, the Type "GF" Heater can be applied to any oil fired apparatus, be it steam or hot water boiler, a process oven, a dryer, or a kiln!

SOLVES THE "OIL-IN-BOILER" PROBLEM

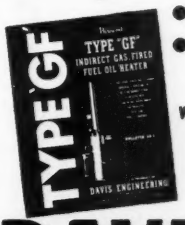
As the Type "GF" Heater is in no way connected to the steam or water space of any boiler it may be serving, there can be no possible contamination of the boiler heating surfaces in the event of an oil leak in the heater.

CHECK THESE FEATURES

Completely factory assembled • Easy to install anywhere, even outdoors • Requires only minimum of floor space • Economical to operate • Wide range of oil heating capacities • Burns any specified type of gas fuel • High oil temperatures at all times • Operation unaffected by normal variation in viscosities of oils being heated • Reduces oil consumption through improved fuel combustion.

SPECIALLY DESIGNED FOR:

- **Low temperature forced hot water heating systems on No. 6 oil.**
- **Plants with starting difficulties after weekend shutdowns.**
- **Supplementing inadequacies in present oil preheating systems.**



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Approved by Board of Standards & Appeals City of New York Cal No. 362-51 SA

DAVIS ENGINEERING

CORPORATION

30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y. • 1064 EAST GRAND ST., ELIZABETH 4, N. J.

Industry Groups

(*Begins on page 92*)

after similar organizations that are functioning successfully in Boston, Philadelphia and Baltimore. The Washington group operates, as do the others, on the basis of individual, rather than company, memberships.

I-B-R testing and rating Code up-to-Date in fifth Edition

THE PUBLICATION of the fifth edition of "I-B-R Testing and Rating Code for Low Pressure Cast Iron Heating Boilers," containing the detailed procedure to be followed by testing laboratories in order to determine I-B-R ratings for cast iron boilers, has been announced by The Institute of Boiler and Radiator Manufacturers, New York, N. Y.

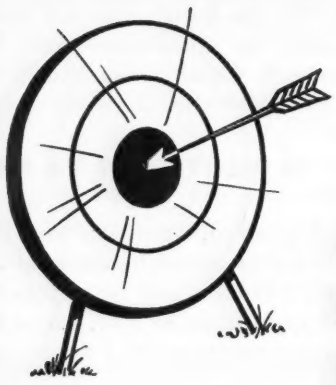
Two major changes appear in the new edition. Table A, "I-B-R Rating Table," now has two parts: Hand-fired Boilers and Automatically-fired Boilers. The second major change in this edition is the addition of a new Part Four, "Testing of Conversion Gas-Fired Boilers," which provides details for testing such boilers.

The Code is divided into five parts: Part 1, Rating of Boilers; Part 2, Testing of Hand-Fired Boilers; Part 3, Testing of Oil-Fired Boilers; Part 4, Testing of Conversion Gas-Fired Boilers and Part 5, Procedure for Obtaining I-B-R Ratings.

The appendix includes definitions of terms used in the Code and a copy of the "I-B-R License for Low Pressure Cast Iron Heating Boilers."

The booklet incorporates all changes which have been adopted by the members since the publication of the fourth edition in May, 1947.

Fulflo Filters



ANOTHER BULLSEYE FOR FULFLO

Almost every Oil-Burner Dealer knows the reasons why FULFLO Oil-Burner Filters far outsell all others.

HERE'S ANOTHER REASON!

You can take a regular FULFLO Oil-Burner Filter from your stock and connect it in a very simple manner to any boiler so that it will remove all impurities and give boiler water of crystal clarity.

Clean boiler water eliminates obnoxious "water-hammer" and prevents building up of heat-wasting scale.

BETTER HOME HEATING FOR LESS MONEY.

No special apparatus is needed for Boiler Water of crystal clarity. Use the regular Oil-Burner models of FULFLO FILTERS.

IF YOUR JOBBER CAN'T SUPPLY YOU WRITE OR WIRE US

COMMERCIAL FILTERS CORPORATION
Two Main Street, Melrose, Massachusetts

New York Oil Heating Group holds first meeting of Fall

NEW YORK OIL HEATING ASSOCIATION, New York, N. Y., held its first meeting of the fall at the Advertising Club of New York, September 9.

J. V. Resek, general manager, Cleaver-Brooks Co., was the principal speaker of the evening.

Among the items of business discussed at the meeting was Amendment 7 to Ceiling Price Regulation 17, which has been issued by the Office of Price Stabilization and under which independent fueloil dealers may apply for price increases.

The group is aiding the OPS in circularizing the industry with forms which dealers must fill out in order to be eligible for any price increase.

Kansas City Educator scores the importance of oil Today

"OF ALL THE PRODUCTS known to man, oil is one of the most important to the maintenance and the development of our present industrialized age," Dr. Marlin M. Volz, dean of the School of Law, University of Kansas City, said in an address before an assembly of students at the Finlay Engineering College, Kansas City, Mo.

F. W. McGarry, public relations department of the local Standard Oil Co. (Indiana) division office, showed a movie on the oil industry.

Dr. Volz pointed out that the United States is now producing and using about two-thirds of the world's oil, which poses the question as to

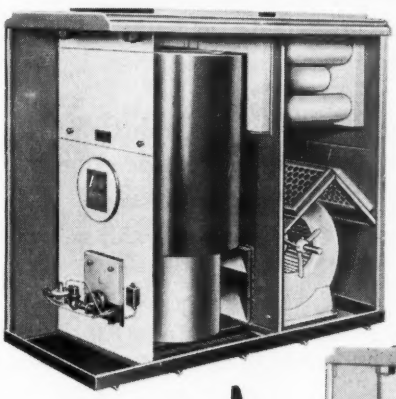
YOU GET *TWO* FUEL *CHOICES*

with

MONCRIEF

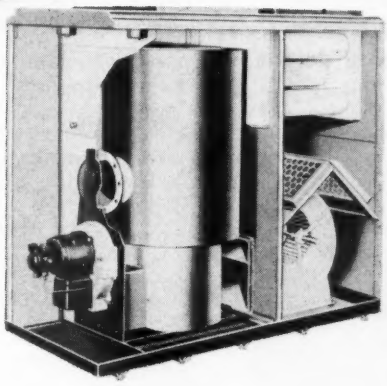
HEATING UNITS

The Same Furnace . . .



as a GAS Fired Unit

as an OIL Fired Unit



Because **MONCRIEF UNITS ARE** *Approved* **for Either GAS or OIL**

CONVERT ANYTIME from one fuel to the other by simply changing burners

Don't let fuel restrictions cost you money—interrupt your work schedule—upset your inventory.

With Moncrief you have Furnaces and Air Conditioning Units so soundly engineered and constructed that they carry the A. G. A. Seal of Approval as a Gas Unit and are equally as efficient with the Underwriters Laboratories' approved MONCRIEF Oil Burner.

So with MONCRIEF there's NO uncertainty—NO need for delay. You install the unit NOW! Install either a MONCRIEF Gas Burner or a MONCRIEF Oil Burner or—decide on the type of burner ANY TIME.

THE HENRY FURNACE COMPANY

HEATING AND AIR CONDITIONING UNITS — MONCRIEF — FURNACE PIPE AND FITTINGS

whether the United States will use up its oil supply before the oil supply is used in other important producing areas.

Stating that while the United States was using oil at a rate faster than the rest of the world combined, Dr. Volz remarked that its oil industry was at the present time much more advanced over that of any other nation with superior methods of discovering and developing new oil deposits and of refining crude oil into excellent products with a minimum of waste.

OHI of Greater Washington told of Benefits of OIIC

THE OIL-HEAT INSTITUTE of Greater Washington, Washington, D. C., heard David McIlvaine, from the Philadelphia office of the Oil Industry Information Committee, API, tell how they can benefit from the activities of the OIIC, at its September 16 luncheon-meeting at the Dupont Plaza Hotel. Also shown at the meeting was a ten-minute film entitled "24 Hours of Progress."

A. Graham Shields, managing director of the Institute, gave a report on the status of its applications to the OPS for a margin increase on fueloil for the area.

Oilburner School, backed by OHA of Maryland, being Held

THE OILBURNER SCHOOL, sponsored by the Oil Heat Association of Maryland, Inc., Baltimore 1, Md., began Monday, September 22, and will continue every Monday and Wednesday, starting at 7:30 p.m. at the Vocational Trade School No. 253 in Baltimore.

J. Hollis B. Albert, chairman, school committee, urges dealers to send some of their junior employees to this school as the cheapest way for the dealer to get men who know their business. Albert urges all dealers in the Baltimore area to get behind the school.

Oregon Heating Industries holds statewide Meeting

OREGON HEATING INDUSTRIES, Portland 4, Ore., held a statewide meeting September 13 at the Eugene Hotel in Portland. Featured speaker of the evening was Frank Branch Riley who spoke on "Boring for Oil."

Four panel sessions were held during the day. Subjects covered were: Credit; Dispatch and Degree Day; Trucks and Equipment and Oilburners.

Oil Men's Club of Kansas City hears talk given by Alex Drier

ALEX DRIER of Chicago, news analyst, who is heard regularly over station WDAF, discussed important questions of the day before the first fall meeting of the Oil Men's Club of Kansas City, Kansas City, Mo., held at the Hotel President, September 15.

In addition to local members of the Oil Men's Club, oil club members from St. Louis, St. Joseph, Springfield, Joplin and Jefferson City attended the meeting.

Smith new OIIC Chairman; succeeds Charles Hardwicke

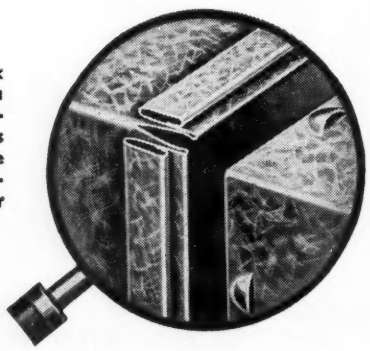
STANTON K. SMITH, president, Smith Oil & Refining Co., has been elected to succeed Charles Z. Hardwicke, Ohio Oil Co., as national chairman of the Oil Industry Information Committee,

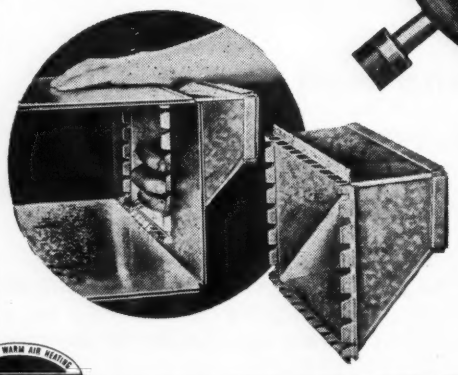
Now It's EASY...and PROFITABLE to do your own ductwork with ADELTA Standardized Fittings

You can make more profit on every warm air job when you use easy-to-assemble ADELTA standardized ducts and fittings. There's no need for special sheet metal equipment or highly trained personnel. Adelta precision-made fittings—with exclusive time-saving features* like those illustrated—make it easy for you to do the whole job quickly . . . more profitably.

***Here's proof:**

Our exclusive One-Piece Snap-Lock Cleat is featured on all Adelta units, including take-offs and reducers. Just push two sections together, and presto!—you have a rigid, leakproof joint . . . without any crimping, notching or drilling to slow up the job.





Adelta's pre-notched collar edges save time on every collar connection. No bothering with snips, pliers and hammer. Just push the collar edges closed with your fingers to get a tight, permanent connection.

Write today for the Adelta 1952 catalog.

INDOOR COMFORT

ADELTA MANUFACTURING CO., INC.

Standardized Pipe, Duct & Fittings for Warm Air Heating

2101 Ellsworth Street Philadelphia 46, Penna.

New!

DELTA

FULLY AUTOMATIC **FLOOR FURNACE**

WITH TROUBLE-FREE **GUN-TYPE BURNER***

80,000 BTU/HR OUTPUT!
MEASURES 24" x 32" x ONLY 29½" DEEP!

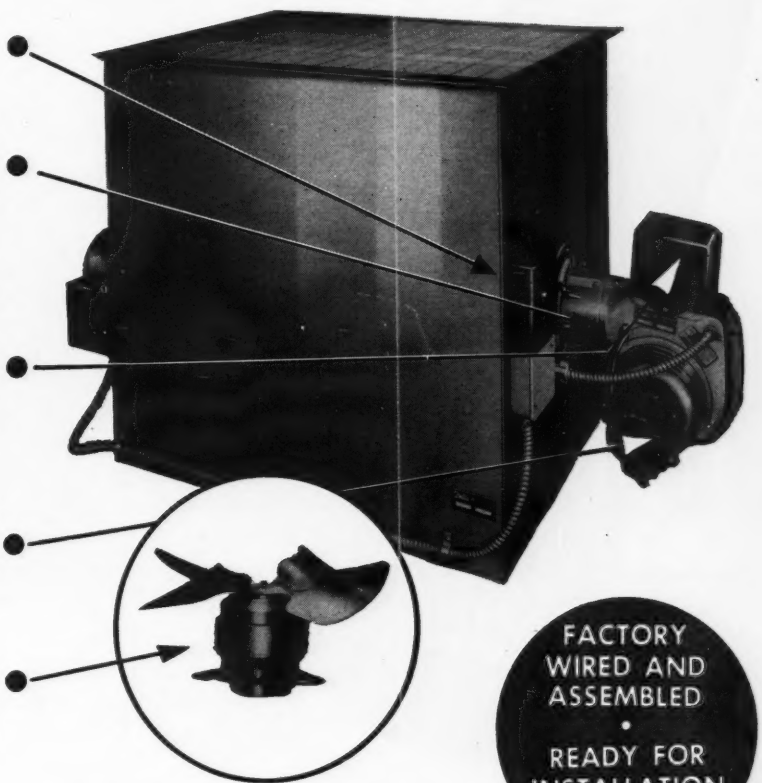
Safe — Gun-type burner permits low grille temperature. Limit 200°! Bilt-in fan switch turns fan on and off *automatically.*

Quiet — New DELTA gun burner. Mechanical noise eliminated—produces soft-quiet flame. Former owners of vaporizing-type furnaces report: "100% quieter," "Can't hear it run." Many other glowing reports from satisfied users.

Clean — Delta-Flanged gun burner produces a clean luminous flame. Instantaneous fire from 10,000 volt electric ignition transformer. Bilt-in refractory chamber. No part of burner enters fire box. Complete on and off operation — no low or after-fire to form soot, carbon, or overheat the house on warm days!

Thrifty — Burner — Underwriters Laboratories approved to burn cheaper-to-buy #2 fuel oil. Bilt-in fuel pump will lift oil up to 20 feet. Fuel tank can be located lower than burner or even buried underground.

Fast — Large circulating fan automatically controlled by bilt-in fan switch—draws in cold air—gently recirculates warm air upwards. Provision for cold-air returns from distant hard-to-heat rooms. New type motor has oilless bearing—no maintenance worries.



FACTORY WIRED AND ASSEMBLED • READY FOR INSTALLATION

MINNEAPOLIS-HONEYWELL THERMOSTAT & CONTROLS

AT LAST! *a Practical*

FLOOR FURNACE BUILT TO PERFORM!

NO SERVICE PROBLEMS! — NO DRAFT PROBLEMS!

DELTA

HEATING CORPORATION

TRENTON 8, NEW JERSEY

RUSH COUPON FOR FULL PARTICULARS

* PATENT PENDING

DELTA HEATING CORPORATION
TRENTON 8, NEW JERSEY

Please rush full particulars and my cost on your new gun-type floor furnace.

COMPANY .....

INDIVIDUAL .....

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fuel oil & oil heat

SILENT STEEL
SPLINES
Will Not
Nibble Out!

Pats. Pending

Replace spline couplings which have stripped out, loosened, or become noisy, with this heavy-gauge silent steel coupling. Guaranteed not to strip or loosen. Heavy-gauge steel prevents distortion.

Conventional set-screw couplings available in all lengths and bores.

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

Our 25th Year

FLEXIBLE COUPLING
MFG. CO.
8145 South Dobson Avenue
Chicago 19, Illinois

American Petroleum Institute. Smith will take charge on January 1.

Re-elected vice-chairmen were Phillip C. Humphrey, The Texas Co., and William N. Finnegan, Jr. Two new vice-chairmen, W. J. Loufman, Fleet Wing Corp., and C. Haines Finell. Union Oil Co. of California, were named.

Fall golf Party held by Chicago Oil Men's Club

A FALL GOLF PARTY was held by the Chicago Oil Men's Club, Chicago 5, Ill., September 23, at the Elmhurst Country Club.

Numerous prizes were awarded to individual winners at a steak dinner following the day's outing.

OHA of Maryland shows Film at first meeting of Season

THE OIL HEAT ASSOCIATION OF MARYLAND, INC., Baltimore, Md., held its first general meeting of the fall and winter season, September 16, at the Hotel Stafford in Baltimore.

Instead of having a featured speaker as the highlight of the evening, a 25 minute colored film entitled "The Fuel Oil Package" was shown. The picture, arranged for by Socony-Vacuum Oil Co., discussed technical information of interest to both the dealer and the serviceman.

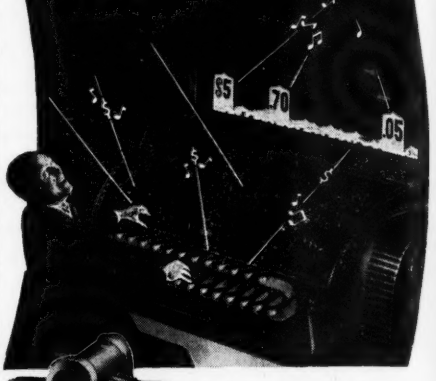
Indiana group's Convention set for next February 5-6

THE SHEET METAL & Warm Air Heating Contractors' Association of Indiana, Terre Haute, Ind., will hold its 35th annual convention, February 5 and 6, 1953, at the Hotel Severin, Indianapolis, Ind.

❖

Richard M. Locke has been promoted by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., to account executive in charge of sales of automatic control equipment to manufacturers in the window cooler and domestic year 'round heating and cooling market. Since November, 1950, Locke has been assistant sales manager of the wholesale division. Before that he was wholesale sales manager for the Midwest region in Chicago.

Customer Satisfaction
MEANS
MORE SALES
for YOU!



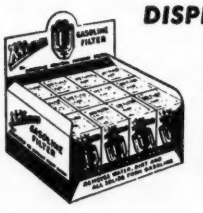
Big Market!
Good Profits!
Repeat Sales!

Klemm
FUEL OIL FILTERS

Only a Klemm Filter can match a Klemm Filter in *extra values.* Your customers will be quick to see the additional advantages *...and that means easier, faster, more profitable sales for you.*

Klemm Filters alone have CHEMISTONE —the original controlled porosity element. The Klemm is a *filter*—not a strainer. It keeps oil-burning equipment at top efficiency by removing dust, dirt, water, etc.

Cash in on the big ready-made market—space heaters, boilers, ranges. Sell Klemm Filters on your service calls. Every sale means a satisfied customer. ORDER A SUPPLY FROM YOUR JOBBER TODAY.



DISPLAY...TELL...SELL!

This eye-catching display is sent to you with each order for 12 or more Klemm (Jr. Model) Oil Filters. Shoppers and walk-in customers are sold while they wait.

Millions Since 1932

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AUTOMOTIVE PRODUCTS CO.
1718 N. Damen Avenue • Chicago 47, Illinois
Mfd. in Can. by Elgee, Ltd. 410 Hopewell—Toronto
Export Div.: Guiterman Co., Inc. 35 S. Williams St., New York, N. Y.

SENSATIONAL NEW PULSATION FREE !

THE SILENT GLOW Express Head OIL BURNER

Here, at last, is your completely successful answer to the problem of "pulsation" now so commonly encountered in compact, modern furnaces. "Express Head" represents an engineering achievement, unique in the annals of burning oil for home heating, which makes it possible to wring every drop of heat out of every drop of oil. Not a single B.T.U. is wasted, with a fire that is brisk and lively, yet far quieter than ever before attained in limited size combustion chambers.

Not to be confused with any of the ordinary burner heads of the jet variety, "Express Head" brings you and your customers an entirely new degree of economy, efficiency, and quiet, trouble-free operation. Added PLUS values are MINIMUM SERVICE, with the exclusive "TIME-SAVER TOP," TIME-TESTED and PROVED SILENT GLOW basic design and quality in every detail, and the unique TRIPLE GUARANTEE clearly stated herewith. Waste no time. Write NOW for full details. Know and sell this great new burner.

Triple Guarantee

1) To operate without pulsation.

2) To be free of defective materials and workmanship.

3) To be equal or better in efficiency than any other oil burner, regardless of price.

Those Who Know Choose SILENT GLOW OIL BURNERS

To: THE SILENT GLOW OIL BURNER CORP.

850 Windsor Street, Hartford 5, Connecticut
1500 So. Western Ave., Chicago 8, Illinois

Send us the complete facts about Silent Glow Oil Burners including prices and your money-back guarantee.

Name:_____

Company:_____

Street & No.:_____

City:_____ State:_____

78L52

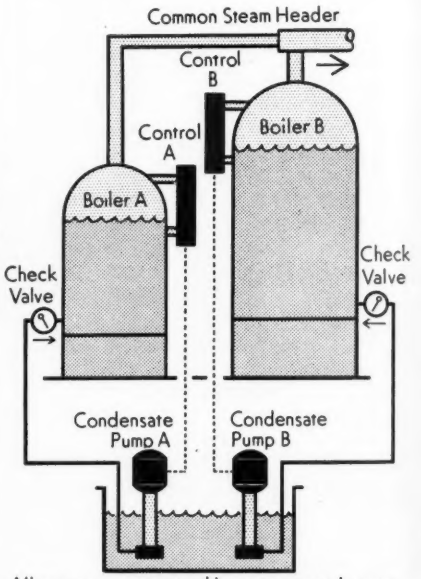
Readers' Problems

Q. Some time ago we noticed an item covering the connection of two steam boilers together to maintain an even water line in both boilers. Would you kindly send us a copy of the item.

H. R. S., Madison, Wis.

A. Probably you refer to the attached drawing, which was published some time ago. Use of this arrangement insures maintaining proper water lines in the two boilers even though the boilers are of different sizes and types and have water lines at greatly different levels.

Control "A" is a combination low-water control and condensate pump control, and turns on condensate pump "A" when boiler "A" needs water. Of course, this control would turn off the burner firing boiler "A," if the water line of the boiler became entirely too low. Control "B" serves similarly for boiler "B," being connected to condensate pump "B" and to the burner that fires boiler "B." A float-type water feeder is connected to the condensate receiver. Need for make-up water shows up, in this system, as a shortage of water in the condensate receiver. Make-up water flows into the receiver, not into the boilers.



All returns connect to this common condensate receiver---equipped with automatic feeder

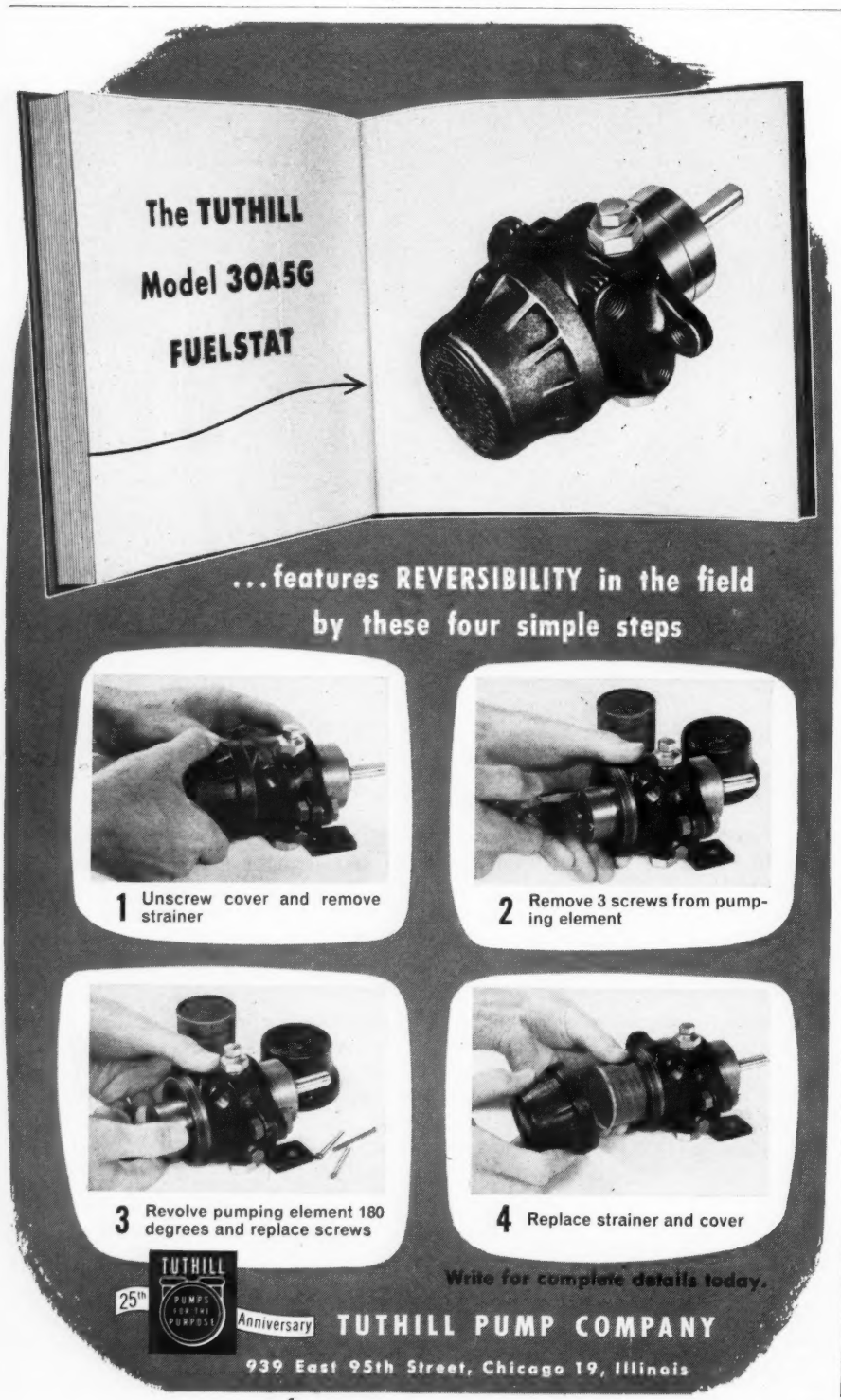
Instead of using one condensate receiver fitted with two condensate pumps, you can use two side-by-side condensate receivers, piped together to maintain the same water line in both receivers and each having a condensate pump.

We first published this idea more than 15 years ago, and since then it has become exceedingly popular because of its obvious advantages.

* * *

Q. In your March, 1952, issue on p. 65, Mr. Francis Martin submitted an arrangement that would keep a nozzle cool.

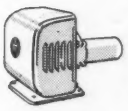
Why connect the Minneapolis-Honeywell Dribble-Proof valve in the return line? I believe that the valve


The TUTHILL
Model 30A5G
FUELSTAT
...features REVERSIBILITY in the field by these four simple steps
1 Unscrew cover and remove strainer
2 Remove 3 screws from pumping element
3 Revolve pumping element 180 degrees and replace screws
4 Replace strainer and cover
Write for complete details today.
TUTHILL
PUMPS FOR THE PURPOSE
25th Anniversary
TUTHILL PUMP COMPANY
939 East 95th Street, Chicago 19, Illinois

20,109,229 copies of these Master Kraft advertisements will reach your best prospects this Fall —

Master Kraft
REG. U.S. PAT. OFF.
AUTOMATIC HEAT

— through these potent mass-selling magazines



CASH IN: Master Kraft today offers you the broadest, most highly salable line in its history, including the unique VCF Induced Draft Furnace . . . new low-cost BLC Boiler Units . . . new convertible WLC Warm Air Conditioners for oil or gas . . . the new competitively priced Master Kraft Gas Conversion Burner that requires no electric current . . . and a wide variety of oil burners from the quality-built, low-cost Series R to the most advanced burner of them all, the famous Air-Lectronic. Send coupon for full information.

HARVEY-WHIPPLE, INC.
Springfield, Mass.
A Pioneer in Automatic Heating

HARVEY-WHIPPLE, INCORPORATED
Dept. FO-41, Springfield 2, Mass.

Please send full information on Master Kraft's modern line of burners and automatic heating products.

Name .....

Street .....

City ..... *State* .....

should be installed in the line from the nozzle port to the nozzle adapter where, in event of a leaky cut-off valve in the fuel unit, the valve would function to prevent a dribble.

B. H. Yonkers, N. Y.

A. You are 100% correct, of course, in describing the manner in which the manufacturer of the M-H Dribble-Proof Valve intends it to be installed. However, this intended manner of installation does not provide the high-rate oil circulation through the nozzle adapter which Francis Martin desires (for the purpose of keeping cool the nozzle and adapter) and which he declares is obtained through installing the Dribble-Proof Valve as his drawing in the March issue indicates.

He wants oil to flow to the adapter at a high rate, and much of this oil to go to the return line through the line marked "⅛" tubing" and the Dribble-Proof Valve. On a certain installation which fires 1.0 gph, he might want 8.0 gph to go to the adapter; of this, 1.0 goes through the nozzle, and 7.0 gph goes through the Dribble-Proof Valve. Instead of using this special valve in the manner intended by its manufacturer, Francis Martin is using it in a manner decidedly different, which he seemingly invented. Used in the Martin manner, the valve does not provide sharper, dribble-proof cut-off, and does not protect against failure of the regular cut-off valve in a fuel unit.

* * *

Q. Estimating the EDR tax on the boiler by domestic tank and tankless, I have seen at least five conflicting methods of estimating given by reputable sources. I would appreciate suggestions on this.

S. F. A., Bronx, N. Y.

A. The reason the conflicting methods are recommended is that on most jobs the matter is not critical. Certain dealers make no allowance for tankless heaters, for example, and say they get into no trouble as a result; whereas other dealers conscientiously consider ordinary-size tankless heaters as 60 sq. ft. of standing steam radiation and 5 gpm tankless heaters as perhaps 100 sq. ft. of steam radiation. Whether or not the peak heating load and peak water heating load can be on the boiler simultaneously is a great factor. On many installations, for the two loads to peak simultaneously is impossible. We suggest that you consider carefully all the instructions on the matter which you have collected, then wind up by making a happy-medium, common-sense allowance for domestic tankless and tank-type indirect heaters. Bear in mind, however, that there are exceptional installations which need an allowance much greater than usually is suitable.

* * *

Q. We can't get this 120 hp boiler up to rated output because over-fire draft is only .02" at 340° stack temperature because stack is only 45 ft. high from floor.

See sketch. Is it advisable to put a big forced-air fan behind the boiler to pour great amounts of air into the secondary space now under the boiler?

INSTALL A GENERAL FUEL OIL FILTER ON EVERY HEATING SYSTEM YOU SERVICE

Because: GENERALS assure clean, safe fuel oils for your customers—stop costly "call-backs" for you

1. Positive absorption with GF's double filter element. Finest felt cartridge removes the finest dirt particles. Inner wire mesh strainer prevents collapse, backs up cartridge.
2. Two-minute felt cartridge replacements mean easy service revenue for you for years to come.
3. Your customers will WANT GENERAL FILTERS and the clog-free protection they offer the year 'round by trapping impurities before they reach burner nozzles.
4. There's a GENERAL FILTER model to fit every need . . . small or large . . . home, business, trailer, etc. All that's needed is a wrench and a few minutes' work.

Remember: . . . a ⅛ inch layer of soot raises heating costs up to 25%! CLEAN RIGHT SOOT REMOVER cleans any system quickly, safely — leaves no residue.

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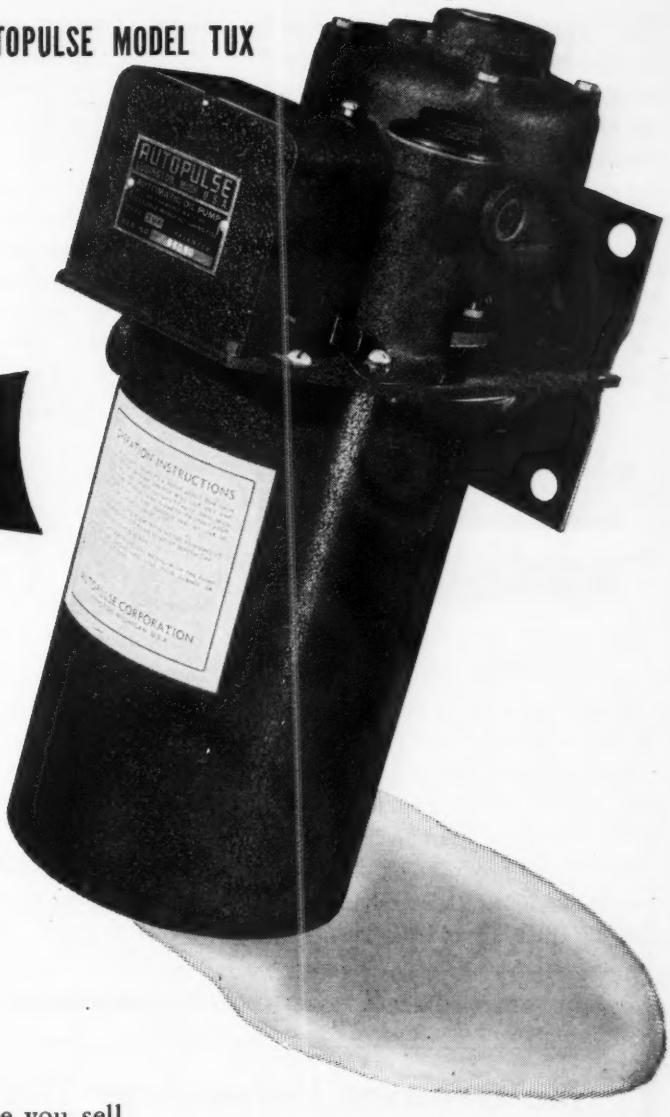
CANADIAN FACTORY BRANCH: CANADIAN GENERAL FILTERS, LTD., 2679 DANFORTH AVE., TORONTO 13, ONTARIO

AUTOPULSE MODEL TUX

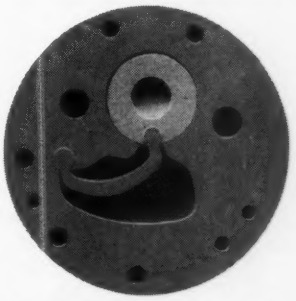


Autopulse's

proven dependability

pays off in extra sales for you

You can be sure of a satisfied customer every time you sell an Autopulse Electric Fuel Oil Pump, because the design and operation of the Autopulse has been tested and proved, in more than a quarter of a century of successful, economical and dependable service. The dependability of the Autopulse is an established fact. Twenty-five years of service life are not at all uncommon. Every sale you make leads to other sales, for there is no better source of new prospects and new business than the recommendations of your pleased, satisfied customers. The Model TUX is primarily a wall type pump. Complete instructions accompany every pump package for ease of installation and service requirements are held to a minimum. Write for complete data and information on the entire Autopulse Line.



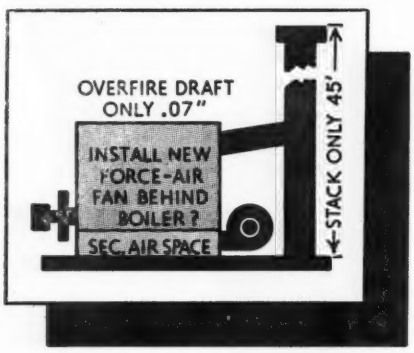
The ingenious yet simple design and operation of the Autopulse rotor, is responsible for its high lifting power. The motion of the rotor—a cam operated semi-roll, has no sudden starts and stops, reducing wear to a minimum and providing exceptionally long service life.

AUTOPULSE *your automatic fuel supply*

AUTOPULSE CORPORATION 218 E. Dowland St., Ludington, Mich.

Much more secondary air is needed, for this burner which is large enough being rated to fire over 50 gph. Shortage of secondary air is the cause of the trouble. Isn't this the good way to simply increase the air?

J. B. R., Baltimore



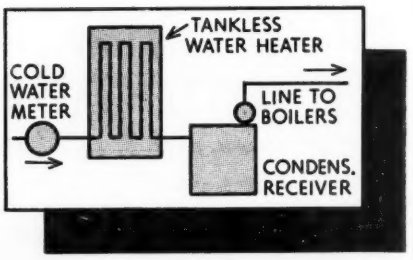
A. Don't do it! The burner you name is not designed to operate with a plus pressure in the firebox. Around its air snoot is an air space through which air flows into the firebox with the over-fire draft properly negative. With a positive draft over-fire, flame and red-hot products of combustion would flow out of the firebox through this air space around the burner's air snoot. Pouring sufficient forced-air secondary air into the firebox to produce 120 hp from this boiler would change the present .02" negative over-fire draft to a plus or positive over-fire draft. Thus installing the forced-air fan behind the boiler would get you into untold trouble.

The job needs either a new, higher stack, or an induced draft blower. On this job, there's no substitute for smoke-pipe draft which is high enough to give you the over-fire draft you need.

* * *

Q. I'm only a service man, but one suggestion I made to the owner of a large heating plant is being taken seriously. I saw the trick in FUELOIL & OIL HEAT, *and it consists of keeping track of make-up water by installing a water meter in the make-up line, which in this plant feeds the condensate receiver. The five boilers are of different sizes, and total about 900 horsepower. They are heavily loaded and I think being ruined by too much make-up water. Meter will check that. Is this additional idea good? Run make-up water through tankless water heater as this drawing shows, to treat and preheat it? Owner is not treating boiler water at all.*

T. O. A., Seattle, Wash.



A. A heavily loaded boiler plant of 900 horsepower capacity needs highly specialized equipment to preheat the boiler water, hence you would be dead wrong in improvising and installing an ordinary tankless heater. Don't do it! Have the owner check with power plant specialists on the advisability of installing a deaerating water heater or similar equipment designed especially for a power plant. Also have him call in specialists to analyze the make-up water and boiler water and prescribe proper chemical treatment methods.

No Greater Value Ever Than These Complete* Fuel Oil Trucks!

IMMEDIATE DELIVERY ANYWHERE in the U.S.A. Trades accepted and convenient terms arranged. Rear installed equipment available on all sizes.

1000 GALLON—2 compartment tank; fully skirted, top shrouding; 1½" ticket printer (your choice); 125' 1¼" hose and electric reel; 1952 Dodge 1½ ton with 7:50x20 8 ply tires; complete **$3,995.00**

1300 GALLON—2 compartment tank; equipped same as above; 1952 Dodge 2 ton with 8:25x20 10 ply tires; complete **$4,380.00**

1600 GALLON—2 compartment tank; equipped same as above; 1952 Dodge 2½ ton with 9:00x20 10 ply tires; complete **$5,125.00**

2000 GALLON—2 compartment tank; equipped with 2" ticket printing meter (your choice); 125' 1¼" hose and electric or "Fluid Drive" reel; 1952 Dodge 3 ton with 10:00x20 12 ply tires; complete **$6,465.00**

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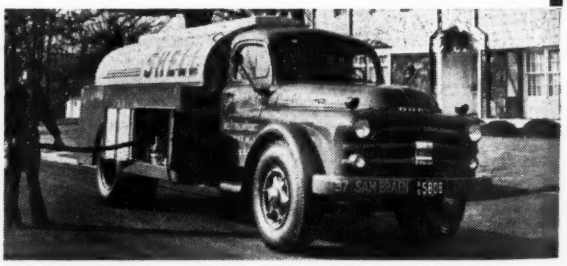
3300 GALLON—2 compartment tank; equipped with 2" ticket printing meter (your choice); 125' 1½" hose and electric or "Fluid Drive" reel; 1952 Dodge Model YX, 4 ton with tandem dual rear; 10:00x20 12 ply tires all around; 100% air brakes; custom cab; all marker, running and signal lights included; complete **$11,350.00**



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Advance-Design
TRUCKS

CHEVROLET **first** in demand in value in sales

Fact No. 1

THEY LIST FOR LESS

Yes, Chevrolet trucks *list for less* than *any other* comparable truck capable of handling the same payloads. And yet, in a Chevrolet you'll find a combination of great truck features you can get in no other truck.

Fact No. 2

EVERY MILE AN ECONOMICAL MILE

For low fuel, oil and upkeep costs you can't beat Chevrolet's time-proved Valve-in-Head engines. Thriftmaster or Loadmaster, these engines give you top economy and long life to match the ruggedness of frame, axles and other units.

Fact No. 3

THERE'S ONE TO FIT YOUR JOB

Right down to wheels and tires, every Chevrolet truck is fitted to the job it has to do—*factory-matched* to operating conditions and payload. You don't have to waste money on "too much truck" or sacrifice efficiency with "too little truck" for your needs.

Fact No. 4

VALUE STAYS HIGHER LONGER

Chevrolet trucks traditionally bring more dollars at resale or trade-in than other makes costing about the same when new. You get more value with Chevrolet trucks from first to last. See your Chevrolet dealer.

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TWO GREAT VALVE-IN-HEAD ENGINES—Loadmaster or the Thriftmaster—to give you greater power per gallon, lower cost per load • POWER-JET CARBURETOR—for smooth, quick acceleration response • DIAPHRAGM SPRING CLUTCH—for easy-action engagement • SYNCHRO-MESH TRANSMISSION—for fast, smooth shifting • HYPOID REAR AXLE—for dependability and long life • TORQUE-ACTION BRAKES—on light-duty models • PROVED DEPENDABLE DOUBLE-ARTICULATED BRAKES—on medium-duty models • TWIN-ACTION REAR BRAKES—on heavy-duty models • DUAL-SHOE PARKING BRAKE—for greater holding ability on heavy-duty models • CAB SEAT—with double-deck springs for complete riding comfort • VENTI-PANES—for improved cab ventilation • WIDE-BASE WHEELS—for increased tire mileage • BALL-TYPE STEERING—for easier handling • UNIT-DESIGNED BODIES—for greater load protection • ADVANCE-DESIGN STYLING—for increased comfort and modern appearance.

CHEVROLET DIVISION OF GENERAL MOTORS, DETROIT 2, MICHIGAN

Q. Can you tell me where I might obtain information on the possible use of used crankcase oil for heating purposes?

D. O. R. E., Chicago

A. Authorities interested in safety are opposed in general to the use of crankcase oil in usual oilburner installations. You'd better obtain information on this from the local authorities that will be interested in the burner installation you have in mind, and from the Chicago office of the National Board of Fire Underwriters.

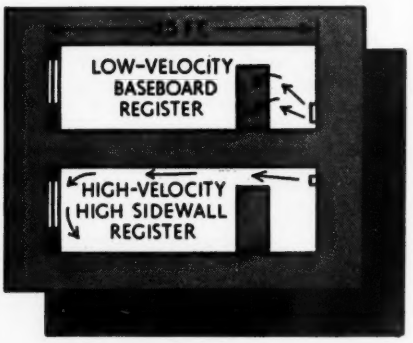
Crankcase drainings are used, as a matter of fact, on a considerable number of installations which have horizontal rotary cup burners suitable for commercial and industrial fueloils. Therefore write for information to some of the leading manufacturers of horizontal rotary cup burners.

Because during sales demonstrations crankcase oil frequently is used in the Winkler low-pressure domestic oilburner, information that interests you may be obtained by writing to the manufacturer of the Winkler burner: U. S. Machine Corporation, Lebanon, Indiana. You should also request information from other manufacturers of domestic low-pressure burners.

* * *

Q. Please comment on this suggested major renovation of a winter air-conditioning system in a large office building. My drawing shows the "Before and After" being considered for one office. The pattern for the other offices is the same. It is proposed to substitute high-velocity high sidewall supply registers for the present low-velocity baseboard registers, to give "reach" of warm air. Workers near the windows, who now are miserably cold in winter, thus would get some heat. But would they feel much draft on their heads? Is this an improvement, even if not perfect? What to do about a few registers that would remain in the baseboards?

K. R. W., Marengo, Iowa



A. Renovated skillfully along the lines you describe, the system certainly should work better, especially as far as the workers sitting near the windows are concerned. To increase greatly the velocities at the supply registers, you may have to increase greatly the air pressure in the supply duct. Simply running the blowers at higher speeds may accomplish this. You seem to realize that entirely different supply registers would be needed. These woold have much less free-air area than the old, low-velocity registers, and would have adjustable vanes for complete control over sidewise and up-and-down flow of air from the registers. You'd better install the best supply registers you find available for such an installation.

Revolutionary
HANDY-KAPS
scientifically Concentrated Capsule
REG. & PAT.
BOILER WATER CLEANER
AND CONDITIONER
ACTUAL SIZE
PROPER PRE-MEASURED PRE-FORMULATED TREATMENT
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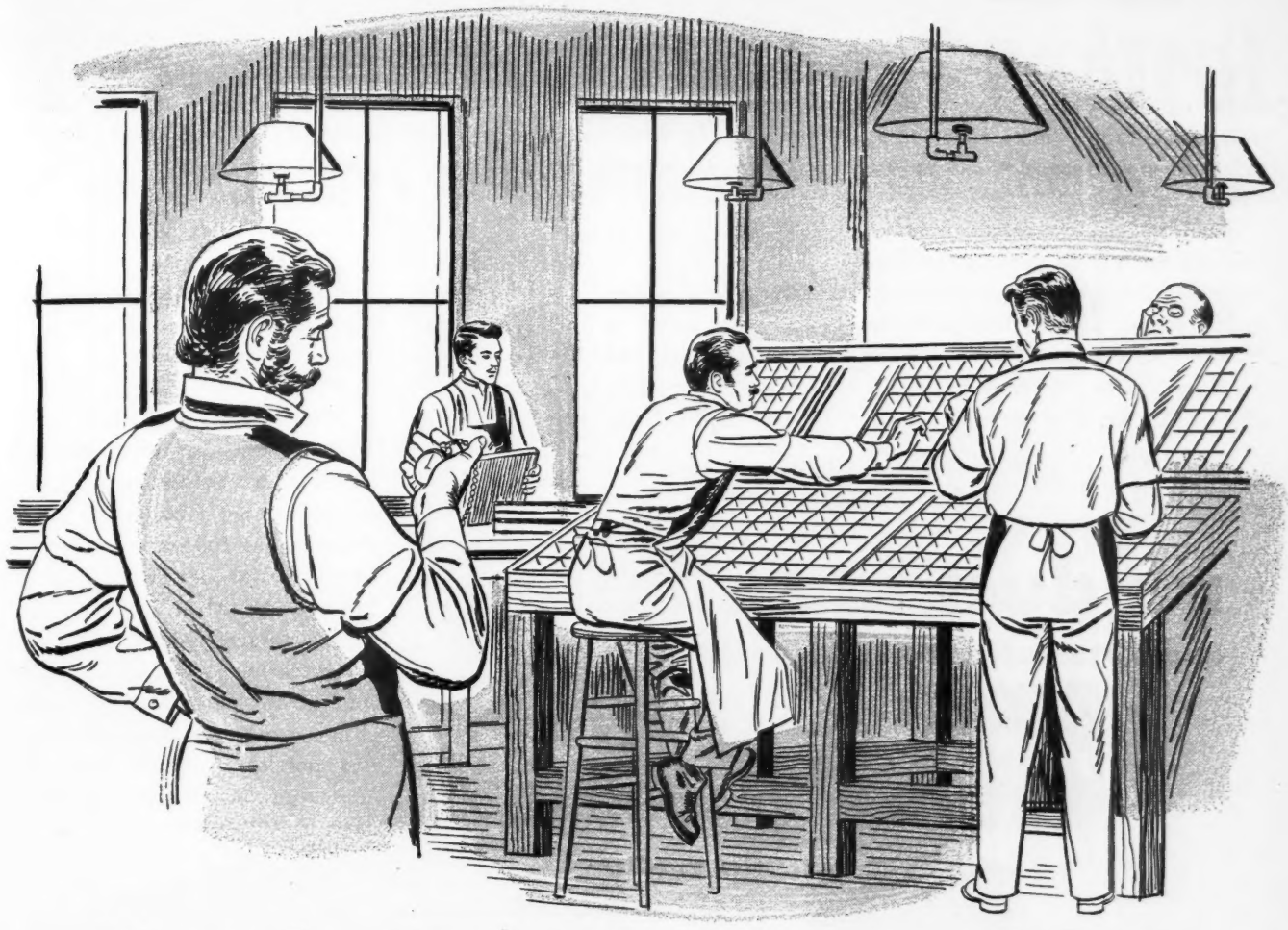

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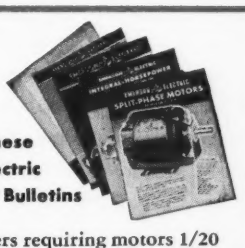
Now, pages of type are set mechanically, in the time formerly required for just a few hand-set paragraphs. Thanks to the invention of power-driven typesetting equipment, and its ready adoption, your modern newspaper meets edition deadlines with ease and with all up-to-the-minute news.

In all walks of life electric motor power has lightened the burden of toil and made working hours more productive. Emerson-Electric experience, dating back to 1890, covers this entire era of mechanization progress. Emerson-Electric Motors bring to your product the benefits of this valuable experience plus an enviable reputation for dependability and efficiency.

Consult with us, without obligation, about motors for your regular or new products. Standard Motors are made in horsepower ratings 1/20 to 5 H.P., and Hermetic Motor parts 1/8 to 15 H.P. *Write...*

THE EMERSON ELECTRIC MFG. CO., St. Louis 21, Mo.

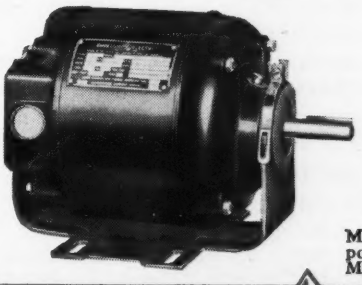
MODERN BUSINESS IS POWERED WITH ELECTRIC MOTORS



Write for these Emerson-Electric Motor Data Bulletins

Manufacturers requiring motors 1/20 to 5 h.p. can profitably use these reference guides. Specifications, construction and performance data are included for these motors:

- ☐ M152-A Capacitor-Start
- ☐ M152-B Split-Phase
- ☐ M152-C Integral
- ☐ M152-D Fan-Duty
- ☐ M152-E Oil-Burner
- ☐ M152-F Jet Pump
- ☐ M152-G Blower



Mergenthaler Linotypes have been powered with Emerson-Electric Motors since 1901.

EMERSON ELECTRIC
MOTORS • FANS APPLIANCES

LEADERS IN THE MOTOR AND FAN INDUSTRY SINCE 1890

You would have to reduce the air-flow from the remaining baseboard registers, after you increase the pressure in the supply ducts. Dampers in the ducts of these registers will permit you to do this.

Don't undertake work of this type without the help of instruments! You should read the pressure in the supply ducts, use an air-flow instrument to measure the velocity of the air at the registers, and use thermometers to ascertain that the air in the supply ducts is at the temperature that gives you the best results.

The improvement may cause workers near the windows to feel slight drafts on their heads. But it will give them more heat.

* * *

Q. *We would very much appreciate your giving us your considered opinion on using baffle stools in gravity warm air furnaces. We are of a divided opinion as to their benefits because of heat impingement caused by the flame's being directed against the furnace body in converting coal and wood furnaces of the steel type. Also, what is your opinion as to their use in cast furnaces?*

L. K. J., Vancouver, B. C.

A. Both stool-type and suspended-type refractory baffles are to our knowledge being used widely and successfully to reduce oil consumption, by dealers truly expert at combustion. The exceedingly thorough dealers and service men who are most successful in cutting fuel consumption do such things as the following on every job equipped with the refractory over-fire baffles: (1) Make before-and-after combustion tests of CO_2, draft, smoke, and stack temperatures; (2) Rebuild combustion chambers where inefficient chambers are encountered; (3) Install new nozzles of proper spray angles and patterns and often of gph ratings 25% to 40% lower than were used before; (4) Seal air leaks, adjust or replace gun-tube air-handling parts, and take any other steps needed to produce 10% to 12% CO_2 together with passably-low smoke readings.

If you install a baffle of the proper diameter and locate it the proper distance above the combustion chamber, you will not overheat the direct heating surfaces of a steel furnace in a heating system which provides the proper, adequate air flow through the furnace. When in doubt about this, make certain to reduce the firing rate of the installation and to avoid installing a baffle of excessive diameter. Your questions would be answered best and most fully by your installing a few over-fire baffles for test and observation. We recommend this course, as it can cost you little in time and material compared to what it would gain for you in assurance and experience.

* * *

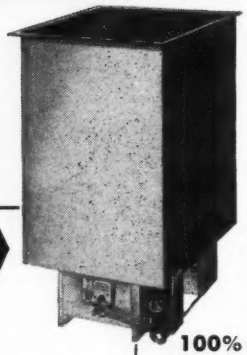
Q. *In your March, 1952, issue on p. 66, a service point submitted by Mr. Herbert Davies of Hamilton, Ontario, illustrates the necessity of straightening the angle bend on fixed assemblies.*

Mr. Davies has a good point, but

no duct installation

and automatic self-lighting operation make

H.C. Little oil floor furnaces

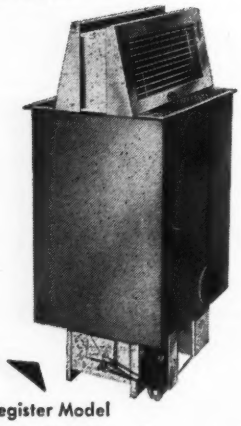


the really profitable units for you to handle!

QUICKLY, EASILY INSTALLED—EVEN IN HOMES WITHOUT BASEMENTS

Home owners appreciate the economical no duct installation and the H. C. Little advantages that provide uniform, whole-house heat!

Standard Register Model
Two Sizes: 50,000 and 75,000 BTU heat output.
Special Shallow Floor Furnace with Standard Register available that is only 34" deep: 50,000 BTU heat output.



Dual Register Model
Two Sizes: 55,000 and 80,000 BTU heat output.

100% AUTOMATIC OPERATION—Patented vaporizing burner lights itself electrically, regulates itself—is thermostatically controlled—yet has no moving parts of any kind to wear or make noise!

PATENTED LOW-VOLTAGE IGNITION—takes the bother out of home heating—has no pilot light to waste fuel or make soot—no high voltage spark to cause radio or television interference.

PROGRESSIVE LOW-TEMPERATURE CARBURETION—produces high heat output without fuel "cracking"—leaves no soot or hard carbon deposits!

SPECIAL OIL HEAT CONTROL—permits burning lowest cost furnace oils, *including catalytic oil!*

TESTED AND LISTED BY UNDERWRITERS' LABORATORIES AND C.S. 113...PLUS MANY MORE SALES PRODUCING FEATURES

WRITE TODAY FOR COMPLETE SPECIFICATIONS AND SALES PLAN

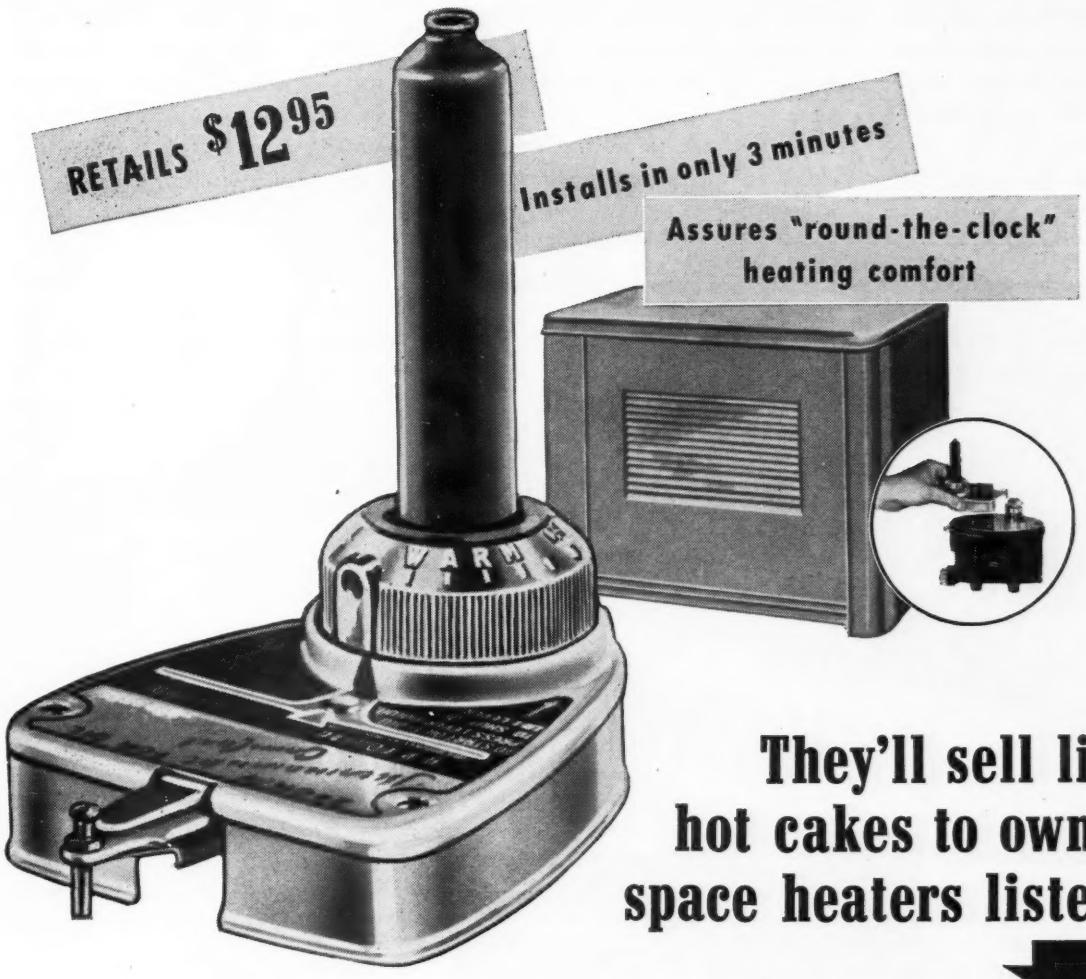
H.C. Little Burner Company, Inc.

Head Office: San Rafael, Calif.

Factory Representatives in 16 Principal Cities

Revolutionary NEW heat control

for space heaters eliminates wiring and thermostats



They'll sell like hot cakes to owners of space heaters listed below

At last! An automatic heat control that can be attached to oil burning space heaters in only a few minutes! More, it's priced at an attractive low cost that every owner can afford.

For "round-the-clock" space heating comfort, there's nothing like this new A-P Comfort Control. It provides all the luxury of automatic, dial-controlled heat, exactly matched to any of the space heaters listed at right. Customers save fuel and enjoy the heat they select, with no peaks, no valleys. And it's so easy to install. Attaches with an ordinary screwdriver. Only two screws to tighten.

Cash in on the big season ahead with this extra-profit builder. Every space-heater owner or customer will want it, once you demonstrate its many advantages. Write today for full details.

This great new merchandising campaign helps you sell space heaters

Complete Profit-Maker kit is yours for the asking. Displays, stickers, folders, ad mats — everything you need to sell this great accessory. Send for your Profit-Maker kit *today!*

Easily installed on any of these famous brands

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fuel oil & oil heat

there is a question that comes to my mind. Don't you think that moving the nozzle closer to the end air cone would make it necessary at times to alter the nozzle spray angle?

Suggestions:

1. In order to minimize the hazard of snapping this particular oil line to the nozzle by bending same, I suggest that the opening through which the oil line enters the casting be enlarged, using a file!

2. I believe that Mr. Davies may find that a narrower nozzle spray angle might help with this problem. Many oilburner manufacturers obtain higher CO_2 with a narrower angle spray. As this might very well be the case, I suggest that Mr. Davies write the oilburner manufacturer for nozzle line spacings and information on the proper spray angle for the nozzle that should be used in this burner.

B. H. H., Yonkers, N. Y.

A. You ask if moving the nozzle closer to the end cone would make it necessary at times to alter the nozzle spray angle. Of course, we agree that it would. The best way we know for checking this is to use a smoke-reporting instrument and a CO_2 tester on the installation which is to be fitted with the proper nozzle. Use the nozzle spray angle that gives the highest CO_2 together with the highest smoke reading which you consider satisfactory for the installation. If for each of your tests you start out by adjusting the burner's air damper for #3 smoke, for instance, then a nozzle that gives 11% CO_2 does not do as well as a nozzle that gives 12½% CO_2.

Your two suggestions are excellent, of course. However, certain service experts tell us that their own on-the-job efforts at adjusting burners painstakingly are producing results that cannot be equalled merely by obtaining and following the burner manufacturers' instructions.

* * *

Q. *Please help us answer the following inquiry:*

"We use oil for heating, the system being warm air. Is there any inflammable liquid to burn soot out of chimneys and furnaces? The house cannot burn as it is made of concrete, brick and steel, no wood or flammable material.

"The furnace flues consist of boiler tubing.

"Would you please recommend a material and the application of the material to burn out the soot in the flue or chimney?

"The furnace flue is made up of tubes and air is circulated around these tubes for heating. I want to keep these pipes as free as possible of soot and carbon in order to get as much radiation from them as possible."

The only information we have regarding such soot removal is relative to compounds of common salt or zinc or similar materials that can be thrown on top of a coal fire with the intention of removal of soot deposits. But we don't know of any similar preparation that can be used to remove deposits from the tubes of an oilburning installation.

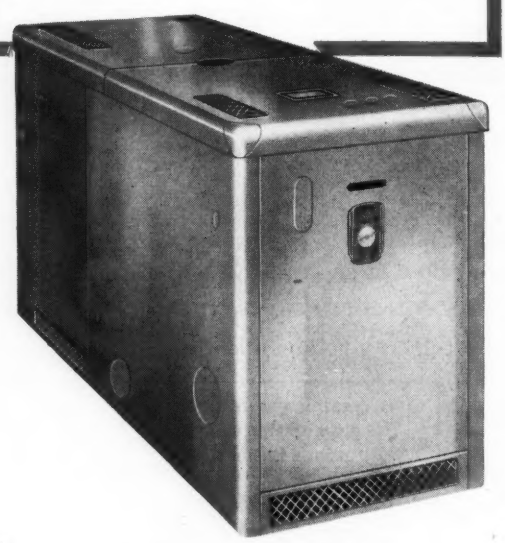
Any data you can give us will be gratefully appreciated.

V. A. G., Monrovia, Indiana

★ Longer Lasting!
★ Better Performance!
★ More Economical!

GREATER PROFITS FOR YOU!

The Bethlehem DYNATHERM



Thousands of home owners have put their stamp of approval on the Bethlehem DYNATHERM with the money-saving, fuel-saving "Whirling Flame" that extracts every bit of useful heat from every last drop of oil, assuring BIG SAVINGS ON FUEL BILLS!

Your customers, too, will choose the Bethlehem DYNATHERM when they compare installed prices and values with this great development of a century-old company!

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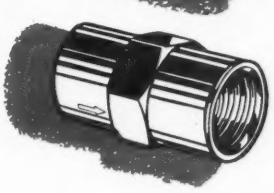
Air & Vacuum Steam and Hot Water VALVES

The Number 20!
Modern Vent on Hot Water Systems

Simple ingenious valve eliminates air AUTOMATICALLY from convectors and radiators —works equally well with force circulation or gravity systems, on new or existing heating plants. Simple to install. No preliminary soaking required. Manual or automatic venting or manual shut off.



The Chamber Vent—Dole No. 20C

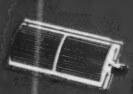
Serves as combination air chamber, automatic air eliminator, manual air valve and manual shut off. Specially designed for venting convectors etc. on hot water heating systems. Four sizes.

The Versatile Dole Flow Control Valve

Many applications have been made. Very popular for tankless heaters—prevents overdrawing regardless of city water pressures. Inexpensive.

Also the great line of Dole Air & Vacuum Valves for one-pipe steam systems—delivers steady returns sales—headed by the famous Dole No. 28 Vari Vent for vacuumizing open systems, and popular

. . . No. 1A Vari Vent Air Valve



. . . and the Dole Thermostatic Air Control

. . . and the Dole Water Mixer

CONTROL WITH DOLE

You can bank on Dole products to give top satisfaction to users . . . and that means more money in the bank for you. When you tune up heating systems, recommend Dole Valves. You'll be satisfied with the results—more quick, easy sales and good profits in volume.

THE DOLE VALVE COMPANY
1933 Carroll Avenue, Chicago 12, Illinois
Representatives in Principal Cities

A. Soot destroyers of chemical types are used on oilburner installations by thousands of burner dealers, service men and owners, who ardently vouch for the efficacy of their favorite soot destroyers.

The EVERYDAY SNAGS department in the October, 1951, issue of FO&OH contained a long item on the proper use of soot-removing powder, which included warnings against overheating and damaging the flues of furnaces as well as instructions for bringing up the furnaces to the high temperatures that insure the removal of satisfactory amounts of the soot in their flues. To quote in part:

"Either stop trying to clean boilers using chemicals or clean the boilers properly by taking special steps to heat their soot-coated surfaces to the temperatures that permit the soot-removing chemicals to work properly.

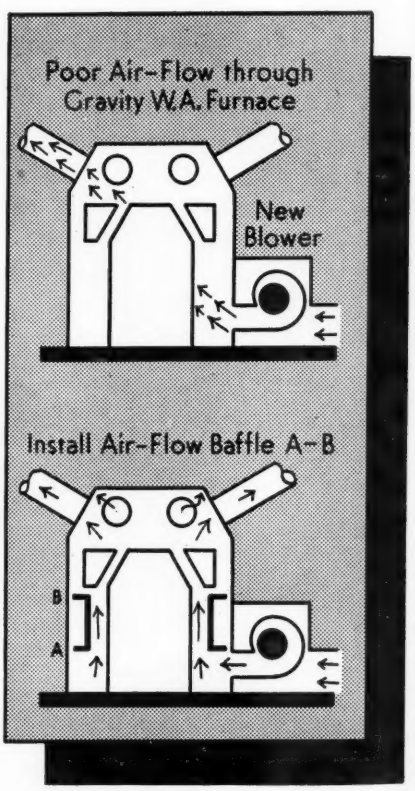
If you use soot-removing chemicals, then, give them the advantage of high heat when you want to do a job."

* * *

Q. I've got a grief. Installed this filter-blower unit in an old system to convert it to forced-air, and made the job worse. Circulation used to be sluggish. Now great blasts of cold air come from certain hot-air registers with the new circulating blower running. Air seems to shoot diagonally through furnace casing as my sketch shows. It's confusing because a small flow of very hot air comes from one or two supply ducts, giving the rooms little heat, while at the same time a big flow of almost cold air comes from other supply ducts and oddly gives lots of heat.

Must I double the firing rate of this job to make the furnace nearly red-hot so it gives really hot air with the new blower going? If I do, I'll certainly get into a red-hot smokepipe and higher oil bills.

E. W. X., Teaneck, N. J.



A. The upper drawing shows your trouble, which is not at all unusual. Simply put an air-baffle arrangement inside the furnace casing as the lower drawing suggests. From point "A" to point "B," this has a squeeze effect, forcing the air against the direct heating surfaces of the furnace and giving the proper, uniform air-flow all around the firepot. You may need additional baffling higher in the furnace to distribute the air properly around and

YOU DON'T HAVE TO MAKE SEPARATE SHIPMENTS TO EACH MANUFACTURER, JOE
SID HARVEY'S REBUILDS THEM ALL
REPAIR DEPT.
TO MAGNETIC VALVE MANUF. FOR REPAIR
TO CLOCK MFG. FOR REPAIR
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TO CIRCULATOR MANUF. FOR REPAIR
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through the doughnut or indirect heating surface part of the furnace. Simply eliminate the wide, open spaces inside the furnace jacket, and install sheet metal baffling to cause the air to wipe all the direct and indirect heating surfaces.

Whatever you do, don't increase the firing rate for the reason you give. That would cause the burner to run very few hours on coldest days, and would give sky-high stack temperatures and fuel bills. Use the lowest firing rate that heats the house properly on coldest mornings. Baffle the furnace to control the flow of air through it. Use a proper, low speed for the circulating blower so that air comes from the registers at perhaps 160° to 180°. Balance the system using lock-type dampers in the supply ducts, and if necessary consider cutting the area of the old supply registers by 50%. The old registers are greatly oversize, of course, for forced circulation.

With the system thus modernized and properly converted to forced-air, you should try a much lower firing rate than was used in the past.

Q. Please answer some questions regarding a service complaint made by a customer.

Customer's complaint was noise and vibration on this job having a pressure burner to fire a forced-air furnace. I found bad flame pulsation caused by insufficient chimney draft. Maximum reading I could get on a draft gage was four-hundredths smokepipe draft with burner running and swinging-disc type draft regulator held shut. To cure the pulsation, I had to open the peekhole on the firing door about 3/8".

Question #1—Did I do the right thing in cementing shut the draft regulator to obtain maximum chimney draft?

Question #2—Did I do the right thing in leaving open the firing door peekhole 3/8", because I had to do this to end the pulsation?

Question #3—Isn't this chimney defective inasmuch as it can't give more than the four-hundredths draft (maximum as explained above)?

Question #4—Would this burner's tendency to soot the house be increased by (a) cementing shut the draft regulator, and (b) opening the peekhole 3/8" because this ends the flame pulsation complaints?

S. J., Passaic, N. J.

A. #1—Yes, you certainly did the right thing in using the chimney's full draft.

#2—Such opening of a peekhole, to end pulsation that you can't end any other way, is considered good practice by many dealers and service men and by furnace manufacturers who provide an adjustable peekhole which can be blocked open to end flame pulsation.

#3—On this basis, many engineers and equipment manufacturers consider the chimney defective. According to the installation and service manual of one prominent oilburner manufacturer, for example, where the firing rate is 1.0 gph or less, the chimney should give a smokepipe reading of at least .07" for the test you describe, and for greater firing rates should give a reading of at least .10" draft.

#4a—Cementing shut the draft regulator would decrease, not increase,

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CO_2 Analyzing Elements

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SINGLE METER — All readings on one dial Constant accuracy in service use.

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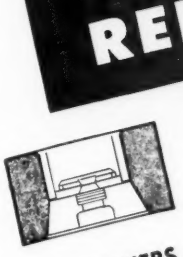
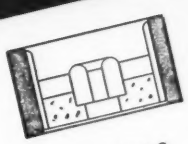
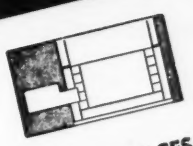


OIL BURNERS



STOKERS



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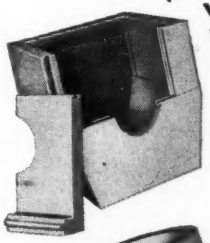
Fuel savings for your customers . . . greater profits for you . . . are the extras you get in the complete line of Walsh-made products for the heating industry. That's because Walsh offers more in experience, skill and facilities as a dominant manufacturer of high grade refractories for over fifty years. Plus values in Walsh products are the result of careful selection of raw materials, modern production methods and exhaustive tests that assure top quality and utmost dependability.



Walsh-made PeTeCo Combustion Chambers — Precast interlocking combustion chambers that arrive at high furnace temperatures immediately . . . assure complete burning of oil . . . full efficiency.

Walsh-made PeTeCo Baffles — Tripod type precast baffles with burnt refractory legs. Saves fuel . . . increases efficiency of heating unit.

Walsh-made Refractory Castable — Walsh H & B Castable forms a durable, one-piece air and gas tight lining. Sets up stronger. Lasts longer.

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Free bulletin describing the usually complete line of Walsh refractories for the domestic heating industry will be sent upon request. Contains helpful information, specifications, sizes, etc. Send for copy today.

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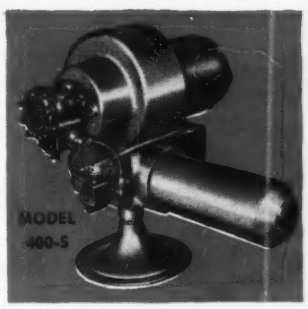
U.S. NEWS

U. S. Oil Burners OUTSELL the Next 5 Leading Brands Combined in Hartford, Conn.



Here's The Oil Burner . . .

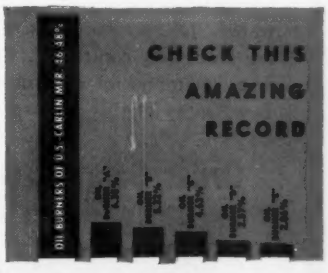
that can give you a reputation for handling the finest burners ever designed . . . plus profits that really speak for themselves.

PROVES WHAT REALLY CAN BE DONE WITH A GOOD OIL BURNER!

Yes, here's a success story that no oil burner dealer with an eye to a bigger, better business can overlook. Based on the official records of oil burner permits issued by the City of Hartford Building Department for the period of January 1, 1950 through August 1952 . . . oil burners of U. S. manufacture outsold the next five leading brands combined by 33% . . . with more than 100 brands represented! But the preference for U. S. Oil Burners has become so great that from March 22, 1952 up to August 30 . . . 46½% of all oil burner installations have been U. S.—more than twice as many as the combined total of the next five leading brands. (See chart below) What is the reason for this amazing sales record? It's very simple . . . U. S. Oil Burners *outsell because they excel.* Any U. S. dealer will tell you that these are indeed the *best* oil burners built. Embodying the most advanced engineering principles, with finest quality construction throughout, U. S. Oil Burners assure long, trouble-free, quiet operation with maximum fuel economy.

*HTCH INSURES REMARKABLE FUEL SAVINGS

This is one of the many features in U. S. Oil Burners that paved the way for thousands of sales throughout the country. How would you like to sell the economy of this *High Temperature Combustion Head — as modern and efficient as today's high compression motor — develops up to 35% more heat than conventional burners with proportionate fuel savings.



THEY OUTSELL BECAUSE THEY EXCEL

Dealers! What was done in Hartford can be done right in your community . . . and it can mean BIG PROFITS for you. If you're not happy with your present setup, now is the time to find out if there is a U. S. dealership open in your area. Write to . . .

U. S. OIL BURNER DIVISION
THE CARLIN COMPANY, WESTERVILLE, OHIO

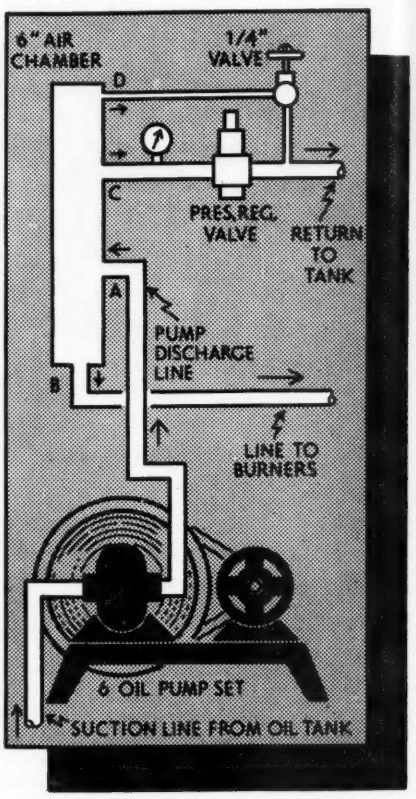
the burner's tendency to soot the house.

#4b—You indicate you had no alternative except to keep the peekhole open 3/8", and infer that when you finished adjusting the job it ran properly, which would be with a clean, bright flame and a slightly negative over-fire draft. Under these conditions, sooting of the house is not caused by keeping open a peekhole to end flame pulsation. Many oil-fired furnaces and boilers are operating in a proper, troublefree manner with their firing door peekholes kept open a fraction of an inch to avoid flame pulsation trouble.

* * *

Q. Been wondering the "Why" of this air dome at the output side of the pump set ever since I came to work in this boiler room eight years ago. The Chief won't admit it, but even he doesn't know the "Why's" of this mess of piping. It was installed years ago. Why the 1/4" needle valve at the top, which we are told by old, old type-written instruction sheets simply to "keep cracked open"? Can you by any chance account for this entire arrangement?

L. N. S., Brooklyn, N. Y.



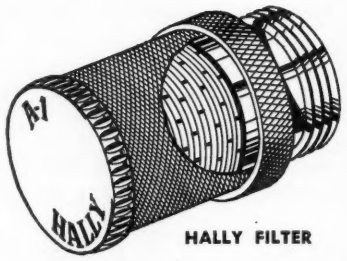
A. We certainly can explain it, for about ten years ago we published and explained the very set-up! It's used to give 100% oil, no air, to burners on a job having a slight suction line leak. Because of the suction line leak, a frothy mixture of air and oil comes from the pump set at times, entering the dome at point "A." Oil traveling slowly downwards to burner-line connection "B" has an opportunity to become free of air bubbles, so at "B" there is 100% oil and no air. The pressure regulator valve connected to point "C" may close tight when the pump pressure drops somewhat because of air entering the pump, and this prevents air from escaping from the 6" air chamber through the pressure regulating valve.

Therefore, the 1/4" needle valve is kept somewhat open so that air can escape from the dome continuously, even when the pump pressure is lower than the pressure regulator valve setting. If you have a suction line leak, the arrangement is serving you well. Keep the 1/4" needle valve somewhat

Nozzle TIPS

How To Burn Less Than 1 GPH —Without Nozzle Plugging

Service men know that a 200 mesh strainer will not prevent plugging in small capacity nozzles. Why? The nozzle slots are only slightly deeper than the width of screen openings. Foreign particles which work through a 200 mesh screen frequently stick in these slots.
Hally Filters stop foreign particles before they reach the nozzle slots. Tiny metal discs stacked together in the Hally Filter form accurately controlled openings only one-fourth to one-third the size of those in ordinary wire strainers.



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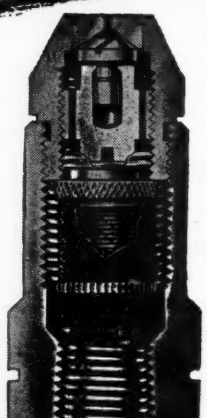
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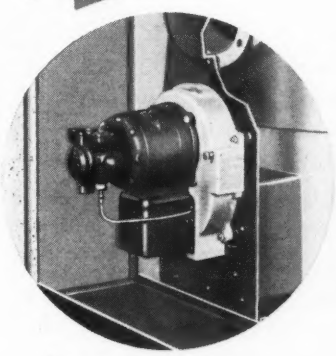
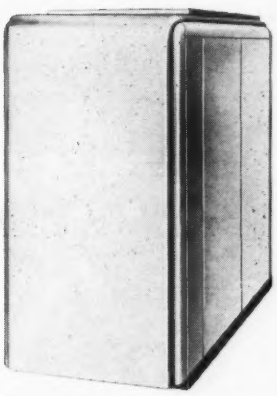


For an approved Oil Fired Unit, install the Luxaire Oil Burner.



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With Most Luxaire Units You Can Burn EITHER GAS or OIL

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Convert from One to the Other ANYTIME!

Don't let fuel shortages or restrictions stand in your way—select a heating unit NOW!

With a stock of Luxaire units you are prepared for *any* fuel at any time! Because —

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equip the furnace for either fuel NOW and convert at any time should a fuel complication occur.

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HEATING & AIR CONDITIONING UNITS

fuel oil & oil heat

open. If you open it too far, excessive oil and air will pass through it at times, resulting in closing of the pressure regulator valve and dropping of the pressure on the burners. If you have a tight suction line, the air chamber and needle valve are not needed, and you can tight-close the needle valve without causing any difference in burner operation.

Just watch closely the flames and the pressure gage with the needle valve tight-closed, and then with this valve open halfway. That will tell the story.

Q. I am a subscriber to FUELOIL & OIL HEAT *and know you can come up with the answers to difficult heating problems. So I am passing along to you a problem I recently encountered.*

A swimming pool has 24 showers through which 2,000 persons pass in four hours.

There's an eight-section Hy-Test boiler oil-fired at 2.0 gph. It's hooked up to a 1,000-gallon hot water tank.

Of course lack of hot water is the problem. Based on 100° rise from 60°, output of heater is 220 gallons hot water per hour. Why they are always out of hot water is understandable!

I have computed the hot water demand on 24 showers averaging 200 gallons per fixture as: 24 showers times 200 gallons per hour per shower equals 4,800 gallons per hour.

Probable demand can be taken as 40% of this 4,800, and equals 1,920 gallons per hour.

Heater or coil capacity then equals 1,920 gallons per hour.

Taking 75% of the storage tank capacity as "usable" provides 750 gallons.

Multiply the 1,920 gallons per hour by four hours gives 7,680 as the four-hour demand, and taking 750 "usable" hot water in the tank from this gives us 6,930 gallons that must be heated in four hours. Divide by four and get 1,733 gallons per hour—required heating capacity.

I calculate a hot water supply would have to be fired at the rate of 13 gph to recover 1,733 gallons of water per hour through 100° F. rise.

Please let me know if my calculations are anywhere near correct.

A. G. F., Abington, Pa.

A. We hesitate to figure that each shower would during the four-hour period take less than 100 gallons of hot water per hour. Use of your 40% probable-demand factor leads you to figuring 80 gallons of hot water per hour per shower. We prefer to play safe and use the figure of 100 instead. Thus we figure 2,400 gallons of hot water must be provided per hour (this compares to your figure of 1,960 gallons). We figure 9,600 (not 7,680) gallons of hot water wuold be used in four hours.

Turbulence and resultant mixing of hot and cold water in this heavily loaded hot water tank would cause us to figure 50% of the hot water (not 75% as you figure) is usable. In fact, we'd not count on the tank at all, as its 500 gallons of available hot water is negligible compared to the load of 9,600 gallons of hot water in four hours.

We've got a good thumb rule for this job: Firing 1.0 gph at about 70% over-all or actual efficiency will heat just two gallons of water per minute,

• BIGGER PROFITS
• LOWER INVENTORY
with the 'One Package'...
KANTLEAK
OIL TANK KIT

Custom Designed
16 SIZES FOR EVERY NEED
Complete

★ SIMPLE TO INSTALL ★ COMPACT ★ LOW COST

A trouble-free installation Kit that will balance your stocks, reduce slow moving parts in your bins and cut sales time to a minimum. Dealers already supplied report no sales resistance... The Kantleak 'one package' Kit meets with instant approval. Filter approved by Underwriters' Laboratories for No. 1, 2 and 3 fuel oil.

— SEE YOUR LOCAL JOBBER OR WRITE DIRECT —

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for your

COMBUSTION CHAMBERS

HEAT-RESISTING

STEEL

SHEARED TO SIZE

If you are using or contemplating the use of heat-resisting steels for combustion chambers for oil burner furnaces, we are specialists in producing these types of steels.

Whether you are a large or small user of these steels, our steel making facilities can offer exceptional service by especially shearing to your specified combustion chamber steel blanks, or multiples thereof.

1 *More quiet burner operation*
2 *Cleaner heat*
3 *Better temperature control*
4 *Considerable savings on fuel costs*

Write us for additional information

ENGINEERING B-W PRODUCTION

Ingersoll STEEL DIVISION

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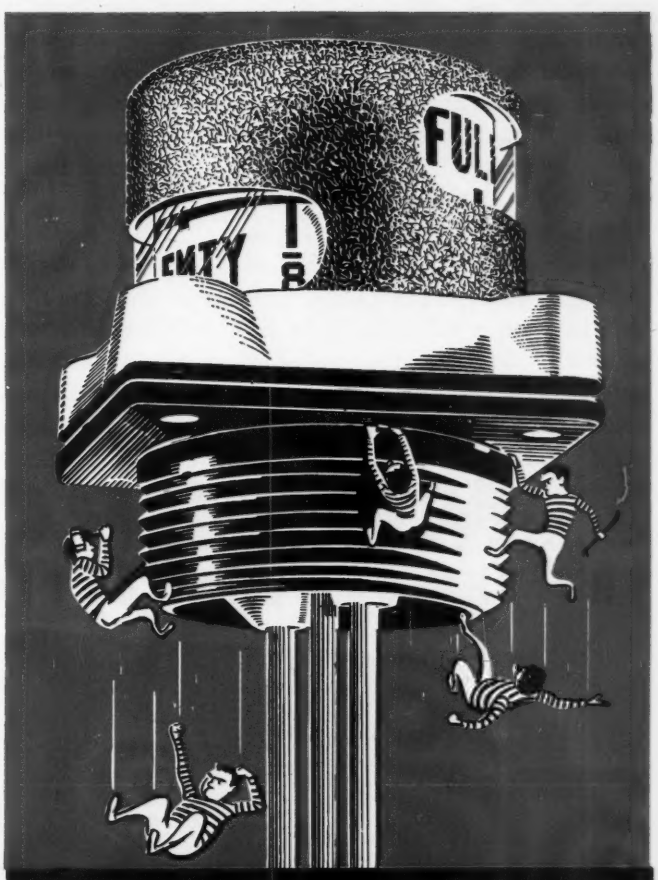
310 South Michigan Avenue, Chicago 4, Illinois

Plant: New Castle, Indiana



Lock up "trouble-bugs"

with

Rochester

"DUAL-DIAL" GAUGES

Fumes, seepage and other "trouble-bugs" are permanently *sealed in* with Rochester DUAL-DIALS. No time is wasted on nuisance calls . . . customers are satisfied . . . extra profits are assured!

Permanent magnetic indication transmits the float-arm action through the solid gauge head. *There are no holes to worry about.* Pressure-tight, leak-proof construction gives years of *trouble-free* service . . . even under pressure.

The easy-to-read "dual-dial" can be seen from both front and back . . . makes tank checking and filling a snap.

Rochester DUAL-DIALS are Underwriters' listed and *more than 2½ million* are now in use. They're easy to install and stocked by leading wholesalers everywhere for all standard basement oil burner storage tanks. Rochester Manufacturing Co., Inc., 19 Rockwood St., Rochester 10, N. Y.

OHI

Rochester

MANUFACTURING COMPANY, INC.

DIAL THERMOMETERS GAUGES AMMETERS

ROCHESTER DEPENDABLE ACCURACY GAUGES

over a 100° rise. Each 1.0 gph you fire the boiler provides 120 gallons of hot water per hour. You need 2,400 gallons of hot water per hour (on the basis of 100 gallons per hour for each of the 24 showers). Therefore divide this 2,400 by 120 and arrive at a needed firing rate of 20 gph. Use this method to select the boiler size. With the help of a boiler manufacturer, wind up with a boiler which, properly and efficiently oil-fired at the rate of 20 gph, will give you a stack temperature reading no higher than 600° F. The 20 gph firing rate corresponds, of course, to a 60 horsepower boiler output. You might get by with the 13 gph firing rate you figure, for after all it is more than six times the present firing rate. But we'd pick 20 gph!

* * *

Q. We, as subscribers to your magazine, take the liberty to request your assistance in the following matter:

We have a request to install a burner using No. 3 furnace oil for a hot water system used to heat the swimming pool belonging to a local millionaire. The only possible boiler location is such that the chimney fumes will be carried into the bedroom area of the residence.

Our problem is to install some equipment which will eliminate the odor of the waste gases.

Can you give us any information in this regard or direct us to those who can?

W. M., Vancouver, B. C.

A. The products of combustion produced by using No. 3 oil are not necessarily noxious, as is proved by the fact that large warehouses, hangars, etc., sometimes are heated by oil-burning equipment which directs the products of combustion into the buildings instead of directing these products outdoors in the usual manner.

However, even where highly effective steps are taken to produce exceptionally high-temperature and complete combustion, the products of combustion of an oil flame should not be directed into the rooms of a home, particularly a millionaire's home. When an oilburner starts with its firebox cold, combustion may be incomplete and the products of combustion might for a few seconds include oil fumes. If, as must be taken into consideration, the oilburner at some time develops defects or need for adjustment, the products of combustion may include soot specks, smoke, and oil fumes.

To install equipment to remove all impurities of the mentioned types from flue gases is not practical. We know of no equipment made to purify products of oil combustion so that these products may safely be directed into the bedroom area of a millionaire's home. It may be possible for you to develop such equipment, if you are willing to go to the great expense of installing a system that includes such things as a draft inducer, air filters, electrostatic precipitators, cocoanut shell activated carbon odor-absorbing material, etc. The initial cost of the equipment will be high; maintenance costs will be high; and probably most combustion experts and ventilating experts would not consider the equipment practicable.

You say the only possible boiler loca-

.....MONARCH.....

TRY THE G81 COMBUSTION HEAD

- Balanced, clean and efficient fires from .60 to 2.00 gph.
- As easy to install as an ordinary Air Cone and Stabilizer.
- No "adjustments" to tinker with or get out of order.
- Rugged, all metal construction.
- Costs less than any other "Head."

Circular #12251

New

"48" Nozzle Box

Don't jumble your nozzles loosely in your tool box like "nuts and bolts" if you expect them to be usable. Carry as many as 48 nozzles securely in this sturdy, compact steel box.

Monarch Nozzles Best-By Fire Test

Having Nozzle trouble? Fires crooked? Lopsided? Streaky? Smoky? Take a tip from Monarch ("R" Series solid or "NS" Hollow Sprays) and see the difference.

Circular #4150

Write for Catalog D

MONARCH MFG. WORKS, INC.

2503 E. ONTARIO ST., PHILADELPHIA 34, PENNA.

European Distributor: A. Coutau, Rue de la Scie No. 16, Geneva, Switzerland

"Customer satisfaction proves this equipment is tops in performance"

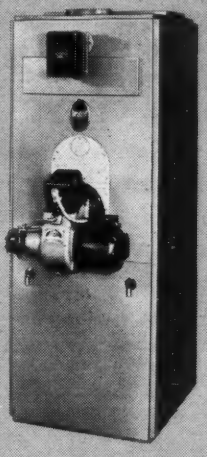
says Malcolm MacLean,
Bryant Branch Manager, New York City

Appearance, ease of installation, brand name certainly play a big part in oil heating equipment sales. But the big difference in creating satisfied customers comes in how that equipment performs. That's why Bryant Automatic Oil Heating equipment is the line with a *big* sales future. It's designed and built to please only one person . . . your customer.

Take, for example, the lightweight, refractory combustion chamber that makes possible higher efficiency when starting . . . the drum-type, *multiple-flue* heating element that gets all the heat possible from the fuel without pockets to trap corrosive condensates.

Such features as these, plus the fact that Bryant has concentrated on the elimination and deadening of sound, are only a few of the reasons why Bryant equipment pays off in owner satisfaction.

Bryant knows only one way to build oil heating equipment and that is as *balanced, completely integrated units.* If you're not already acquainted with the sales possibilities provided by Bryant Automatic Oil Heating, why not get in touch with your Bryant Distributor. Or write Bryant Heater Division, Affiliated Gas Equipment, Inc., Dept. 46, 17825 St. Clair Avenue, Cleveland, Ohio.



Bryant Oil-Fired Warm-Air Furnaces

Broad line, including gravity, forced-air and perimeter heating units. Output ranges from 81,000 to 230,000 Btu per hour. Time-proven pressure-type burner, UL Approved. Sturdy, compact construction.

bryant® *best buy*

IN HEATING,
AIR CONDITIONING,
WATER HEATING

fueloil & oilheat

at last!
Fully Automatic WALL & FLOOR OIL FURNACES by KLEER-KLEEN

NO PILOT FLAME

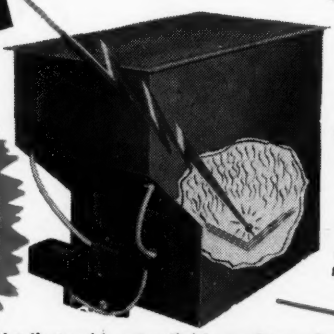
• 16 MODELS to choose from. For every home and every budget.

• FORCED AIR CIRCULATION guarantees proper distribution of warm air throughout the house.

• UP TO 100,000 BTU All KLEER-KLEEN Models and All Parts Thereof Are Listed by Underwriters' Laboratories, Inc.

Furnace lights itself—regulates itself.
Yes . . . KLEER-KLEEN's new Electric Ignition burner ends old-fashioned pilot flame woes! Once the thermostatic controls are set . . . KLEER-KLEEN's Electric Ignition takes over for smooth, efficient operation under ALL conditions! Pilot-type burners available on option.

Just Set it... and Forget it! KLEER-KLEEN ELECTRIC IGNITION Does the Rest!



Distributorships Available in Some Areas

KLEER-KLEEN MANUFACTURING CO. OAKLAND, CALIFORNIA
America's Finest Furnaces

. . . . Readers' Problems

tion is such that the chimney fumes will be carried into the bedroom area of the residence. If this is literally true, then, of course, you cannot consider simply locating the boiler at a distance from the bedrooms and piping the hot water to the pool. However, even with the boiler near the bedrooms, we cannot understand why an ordinary chimney, of the type needed by the conventional oil-fired boiler, will not solve the problem. If it will not, then consider using a draft inducer and a duct system to lead the flue gases to a point above the top of the house.

* * *

Q. Two or three of our customers wish to burn No. 5 oil. Their plants need about 20 gph. We have kept away from burners using heavier oils because we felt our service organization was not ready to care for them. We do not wish to install anything we are not set up to service.

We have four service men to take care of domestic burners and maintain a pretty complete service stock. I notice a few manufacturers sell gun type burners for oils heavier than Nos. 2 or 3. Are these satisfactory or do they require an excessive amount of servicing? Some of these burners would be in small factories and some would be in brooder houses, both of which would be seriously inconvenienced if we could not give them immediate service on a breakodwn.

We will turn down business rather than install burners likely to be unsatisfactory and to affect our good will. On the other hand, if these burners are satisfactory, they can give our customers lower fuel costs. Will you kindly tell us what you think about this matter?

D. L. W., Ellenville, N. Y.

A. The gun type burners you have in mind, which use oils heavier than Nos. 2 or 3, are performing splendidly on thousands of installations. They need only good installation and service work to perform as dependably as domestic burners using light fueloil. You can check this for yourself by calling on a few dealers handling such burners, and checking on their sales, installation, and service operations. Taking all things into consideration, it appears that you should expand your operations and include in your line the type of commercial burner you describe.

(Please turn to page 176)

McCORKLE CONTROLS for Vaporizing Oil Burners are designed to GIVE—not require SERVICE

Less service means greater customer satisfaction—increased profits—more new business

• Patented dual blade bi-metal assembly—insures trouble-free operation—supplies a wide margin of extra power.
• More rapid heat transmission.
• Adjustable snap acting Micro-switch.
• Heavier, more rugged construction.

D. H. McCORKLE CO.
Box E, Station A Berkeley, California

FROM COAST TO COAST

OIL COMPANIES AND SERVICE MEN PRAISE IT AS ONE OF THE GREATEST DEVELOPMENTS IN THE INDUSTRY.

NEUTRODA*

IN YOUR SERVICE MAN'S KIT CUTS NUISANCE SERVICE CALLS 25% & MORE

- STOPS ODOR DUE TO LEAKS & SPILLS
- ONLY KNOWN PRODUCT WHICH NEUTRALIZES OIL BY CHEMICALLY INHIBITING VAPORIZATION —THUS ELIMINATING ODOR
- JUST SPRINKLE IT ON—A LITTLE GOES A LONG WAY
- ODORLESS, NON-INFLAMMABLE, NON-TOXIC, NON-CORROSIVE, NON-IRRITATING. SATISFACTION GUARANTEED

Available at your supply house only. Or write for literature, samples, and name of nearest distributor.

*Pat-Pend © 1952

THE **TANKIT** COMPANY
17 SHEPARD AVE., NEWARK 8, N. J.

Rely on . . . PREFERRED DRAFT-A-JUSTORS

— for stabilizing DRAFT CONDITIONS!

More than 1,000,000 installations prove Preferred does a better job on all types of fuel. The Draft-A-Justor is completely automatic and keeps a uniform pull on the fire box even when outside weather conditions increase the draft beyond desired amount. Easy to set, quick to install . . . its' adjustable features make the Draft-A-Justor a fast selling item.

Available in three sizes to meet the needs of any job from 5" to 13" smoke pipes. Write for details today.

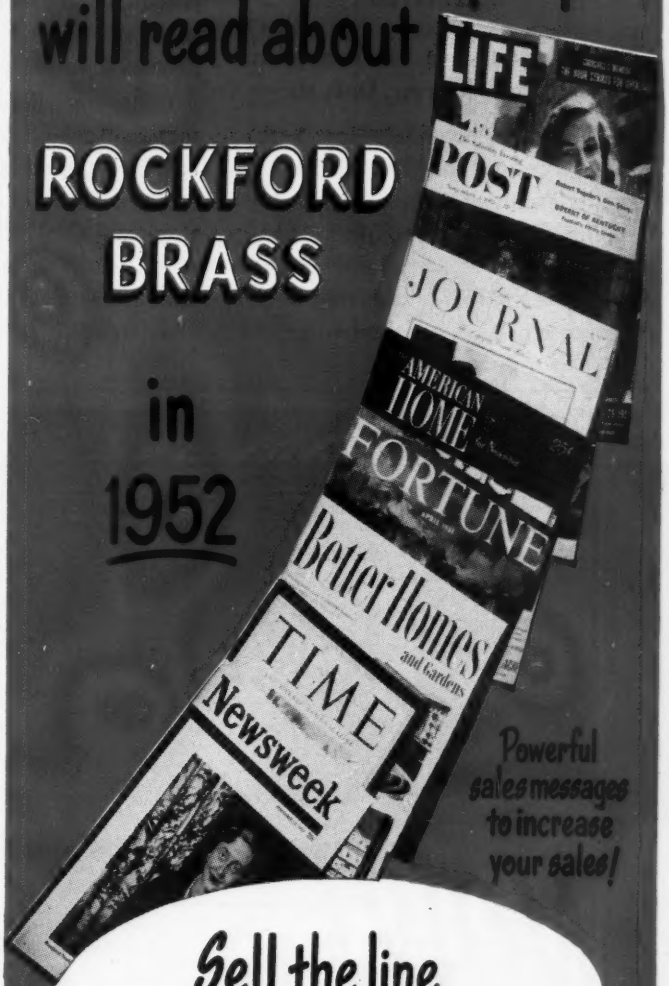
Also available—data on commercial and industrial sizes.

*

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY · NEW YORK 23, N. Y.

017

Over 92,000,000 people will read about ROCKFORD BRASS in 1952



Powerful sales messages to increase your sales!

Sell the line the consumer knows!

Millions of readers of leading National Magazines are being referred to their licensed plumber in the 1952 Rockford Brass Works advertising campaign. Consistent, monthly messages to build sales for the licensed plumber.

Here is a profitable, volume building line — consumer accepted and preferred — advertising to build your sales — backed with over 60 years of experience in manufacturing Quality Plumbing Brass products and sold through plumbing wholesalers.

Tie in with this program for new customers and greater profitable volume. Write for complete catalog information and "sell the line the consumer knows".

QUALITY PLUMBING BRASS SINCE 1890
Rockford BRASS WORKS
ROCKFORD · ILLINOIS

Manufacturers' Activities

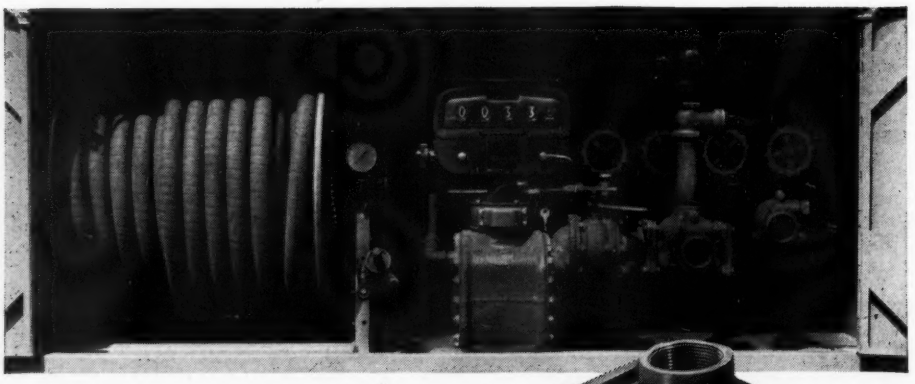
Clisby now Agent for Franklin Electric and Marco Industries

K. L. CLISBY & ASSOCIATES, New York, N. Y., have announced their appointment as exclusive representatives for Franklin Electric Co., Bluffton, Ind., manufacturers of fractional horsepower motors for oilburners. E. J. Schaefer is president of Franklin.

The Clisby organization also has become exclusive agent for Marco Industries, Depew, N. Y., makers of shaded pole motors for window ventilators and small oilburners. Robert G. Marzolf is president of Marco.

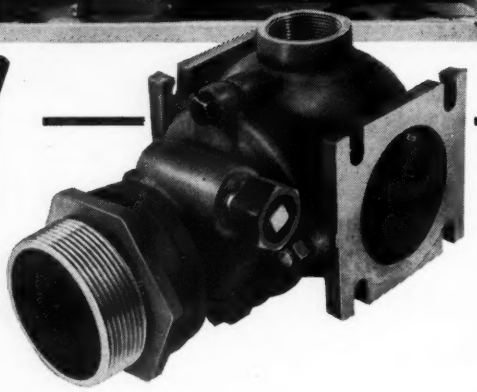
Other lines now handled by Clisby include Reuland Electric Co., Alhambra, Calif., makers of motors up to 20 hp for industrial purposes; the Electric Products Co., Cleveland, O., who make motors up to 5,000 hp for steel mills and similar industrial applications and Dongan Electric Co., Detroit, Mich., makers of oilburner transformers, a line Clisby has handled for many years.

The Clisby organization, which also specialize in magnets, large electric controllers and similar industrial equipment, now maintains an office in Birmingham, Ala., with I. K. Glisby in charge and a sub-office in Atlanta, Ga. Other locations of Clisby offices include Washington, D. C., with that branch headed by F. S. Pilsch; Philadelphia, the office there headed by K. E. Clisby and York, Pa., with J. L. Souser in charge. Other members of the organization, besides Mr. Clisby, in New York include: W. C. Clisby, R. J. Peck, C. L. Leaf and F. E. Fite, Jr.



NOW!

A FULL FLOW MANIFOLD FAUCET THAT REQUIRES MINIMUM SPACE



Philadelphia Valve answers the long-standing need for a small, compact, full flow manifold faucet. This new faucet eliminates the need for bulky gooseneck piping. It takes up exactly the space required by a cross valve, and can quickly and easily be attached to any standard manifold. You can insert it either on the end of the manifold or between the cross valves or gate valves that make up the manifold assembly. A 1½" threaded outlet at the top permits speedy connection to a hose reel.

THREE TYPES ARE AVAILABLE:

1) STRAIGHT
2) BULK TYPE—*nozzle at downward angle of 22½°*
3) BUCKET TYPE—*nozzle at downward angle of 66°*

The faucet can be supplied in 2", 2½" and 3" sizes. Threaded and quick connector tips are available. Spouts and internal parts are all interchangeable with our regular line of faucet parts.

Write today for complete information and quotations.

PHILADELPHIA VALVE COMPANY

3413 Aramingo Avenue, Philadelphia 34, Pa.

Pacific Coast Distributors: Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, Calif.
Howard Supply Co., 5125 Santa Fe Avenue, Los Angeles 11, Calif.

Detroit Lubricator Co. now The Detroit Controls Corp.

TO MORE ACCURATELY describe its present products, a change in the name of the Detroit Lubricator Co., Detroit, Mich., to The Detroit Controls Corp., has been announced by its board of directors.

There will be no change in operating personnel and the company will continue as a division of the American Radiator & Standard Sanitary Corp.

Monthly Newsletter begun by Lionel L. Jacobs & Son

A MONTHLY NEWSLETTER, "Fair & Warmer," is now being published by Lionel L. Jacobs & Son, Wayne, Pa., manufacturers' agents for V & E Products, Inc., Schuylkill Haven, Pa. and Radiant-Ray Radiation, Inc., New Britain, Conn.

The first edition, two pages, mimeographed, states the principles of the organization and the factors upon which they base their sales activities.

Windmaster names sales Reps to handle draft control Line

A NUMBER of manufacturers' representatives, located throughout the country, have been appointed by Windmaster Corp., Columbus, O., to handle the Windmaster draft control.

R. Wendell Franks, Michigan City, Ind., inventor of the Windmaster

draft control and chief engineer of the company, represents Windmaster in the Indiana, Illinois and Wisconsin area.

William J. Debler, Sr., Needham, Mass., will cover the New England territory. George D. Kingsland, Eureka, Mo., has the Illinois, Missouri, and Kansas regions. Virgil E. Dunning, Minneapolis, Minn., will sell in the states of Minnesota, Iowa and North and South Dakota.

O. W. Dobson, New York, N. Y., along with associates George S. Springsteen and Gus Triolo, have the territory of metropolitan New York. Daniel Freedman, Philadelphia, Pa., will cover the eastern portion of Pennsylvania, Maryland and Delaware. Western Pennsylvania and West Virginia will be represented by Harry M. Hadley, Marietta, O.

Recently added to the Windmaster sales force was the Great Lakes Sales Co., Cleveland, O., owned and managed by Charles Murman. Murman and his associates, Frank Davenport and John Veverka, will cover northern Ohio and part of Michigan.

Also newly appointed was Perry Guest of P. L. Guest Sales Co., Greensboro, N. C., who will represent Windmaster in Virginia, and the Carolinas.

International Heater offers wall Charts, counter Easel

A SERIES of dealer display pieces has been prepared by International Heater Co., Utica, N. Y., including a wall chart, counter easel, three wall streamers and an installation card. The pieces are being stocked and are distributed to the dealers through International's jobbers.

The wall chart, measuring approximately 24 by 36 ins., features Economy warm air heating units "Engineered for the fuel you want to use" and includes reproductions of the complete line of units available, grouped according to whether they are coal, gas or oil-fired. Similarly, each of the wall streamers features the same theme, with one plugging gas units, another oil models and the third all three fuels.

Designed so that it can be placed in front of the homes where International units are being installed is a card that achieves excellent display by employing Day-Glo colors, which improve visibility and make the cards considerably more prominent.

Esso Terminal at New Haven receives first oil Shipment

THE NEW MILLION-BARREL, deep-water terminal, under construction by Esso Standard Oil Co. at New Haven, Conn., and which on completion will represent the largest single concentration of home heating oil in the company's marketing operation, received its first shipment of product August 26.

The new petroleum depot, which occupies 33 acres adjacent to New Haven harbor, will have an ultimate heating oil and kerosene storage capacity of more than 35,000,000 gallons and lesser amounts of automotive and aviation gasoline, lubricating oils and solvents.

The arrival of the first tanker had been timed with the completion of dock facilities, pipelines and tankage sufficient to receive the initial ship-

Always a Full Fast Flow
from Reel to Nozzle . . .
NEWTYPE PATENTED CONSTRUCTION
PATENT NO. 1948410 FEB. 20, 1934
GOODALL RUBBER COMPANY
DISTILLATE

"NEWTYPE"
FUEL OIL HOSE, STYLE R-43

The kinkproof, non-flattening construction of "Newtype" is one of the reasons why it assures quicker, lower-cost deliveries of fuel oil to homes, factories, office buildings. On or off the reel, it retains its full rated diameter, even on sharp bends. Other advantages are its light weight and extreme flexibility, for easy handling.

The economy of "Newtype" is realized not only in cost-of-delivery savings, but also in exceptionally long service life, as well. That tough, durable brown cover will stand an extra amount of punishment. ***Contact our nearest branch or send for illustrated folder.***

PARTICIPATING IN THE MANAGEMENT AND FINANCING OF KENTUCKY SYNTHETIC RUBBER CORPORATION

GOODALL RUBBER COMPANY

GENERAL OFFICES, MILLS and EXPORT DIVISION, TRENTON, N. J.

Branches: Philadelphia • New York • Boston • Pittsburgh • Chicago • Detroit • St. Paul • Los Angeles
San Francisco • Seattle • Portland • Salt Lake City • Denver • Houston • Distributors in Other Principal Cities

Est. 1870

ment of 5,000,000 gallons of heating oil. A shipment of an equal amount of kerosene is scheduled for this month.

In addition to four large distillate storage tanks, there will be 13 tanks for other products, an office building, warehouse, garages and loading rack.

Although only partially completed, the company plans to utilize tankage as it is constructed. While heating oil storage facilities will be completed in December of this year, the entire project will not be fully operative before the Fall of 1953.

The New Haven terminal will serve points in the immediate vicinity as well as other points in western Connecticut and western Massachusetts.

General Controls opens Plant to service regional Markets

GENERAL CONTROLS CO., Los Angeles 17, Calif., opened a new plant September 29 at Skokie, Ill., ten miles north of Chicago, to serve its Midwestern and Eastern markets.

The opening of the plant was highlighted by a luncheon attended by the Mayors of Chicago, Skokie, and surrounding towns, and also civic officials, officers of commerce associations and business groups and executives of major business firms in the Chicago trading area.

The opening ceremony was presided over by company president William A. Ray; vice-president in charge of sales, J. F. Ray; vice-president in charge of production, Alvin W. Ray and sales manager, Fred E. Wilson, who, incidentally, will take charge of the new plant.

In his remarks at the luncheon, President William Ray stated that the Skokie plant will enable General Controls to reduce production costs by manufacturing closer to the basic sources of supply. It also will materially improve the firm's delivery schedule, he said.

The Skokie plant, built at a cost of approximately $750,000, is a modern building with 60,000 sq. ft. of floor space, covering a five-acre lot. Additional land is available on the present site for future plant expansion.

Sid Harvey adds Branch to family Tree in Brooklyn

SID HARVEY, INC., Valley Stream, N. Y., has opened a new branch store in Brooklyn, N. Y., under the name of Sid Harvey Brooklyn Corp.

To celebrate the new venture, an open house was held September 8 which started at 3:00 p.m. and continued on into the evening. A lecture on relay trouble shooting was held for industry people attending.

Bulletin describes improved Fitzgibbons Junior Boiler

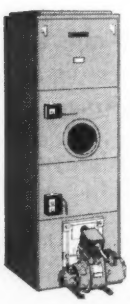
A SIX PAGE BULLETIN has been published by Fitzgibbons Boiler Co., Inc., New York, N. Y., to describe its improved R-Z-U Junior steel boiler for large residences and commercial buildings. A major change in the boiler is the relocation of the water line.

Another design revision facilitates easier installation and servicing as little free space on either side is necessary. The unit can be placed close

oil
gas
or coal...
international Economy®
has all three!

Carry the dependable, profitable line for all three fuels . . . *International Economy.* Hi-Boys, Counterflos, Consoles, Gravity, Forced Air, Blower Units, Unit Heaters, Conversion Burners, Steel, Cast-iron—anything and everything for *your* customer's needs . . . engineered for the fuel they want to use.

It pays to concentrate all your sales fire with International Economy, the *complete* line with over 110 years of heating experience and business integrity at your service.



Illustrated is the Economy Counterflo . . . easily convertible to gas . . . factory-assembled . . . extra-close clearance approval by Underwriters and AGA.

International
heater co., utica 2, n.y.

WESTERN OFFICE AND WAREHOUSE . . . 1933 WENTWORTH AVENUE, CHICAGO 16, ILLINOIS

against a rear wall as the clean-out door for the smoke box is located on the side. All other cleaning is done from the front. Controls are located near the boiler front.

The R-Z-U Junior boiler can be supplied for burning all fuels. The bulletin is fully illustrated and contains specifications, including complete data on tankless domestic hot water supply with the Fitzgibbons TANKSAVER.

Xacto Meter for tank Trucks described in Bowser Catalog

A FOUR PAGE FOLDER, prepared by Bowser, Inc., Fort Wayne 2, Ind., covers complete data on the new 70 gpm lightweight Xacto meter with integral air separator for pump operation on tank trucks handling fueloils and other petroleum products.

Cutaway views show the Xacto principle of positive displacement measurement, the no-metal-to-metal piston construction and the operation of the air separator. The various design features are explained in detail.

Field Control Div. Catalog on barometric draft Controls

A NEW CATALOG has been issued by the Field Control Div., Mendota, Ill., covering Field barometric draft controls for oil and coalfired residential and commercial heating equipment and gasfired commercial installations.

The new catalog, available to all industry people, gives a complete description of each control including sizes, dimensions and shipping weights.

Bundy ceiling radiant Heating described for Homeowners

HOME OWNER'S GUIDE to Bundyweld Ceiling Radiant Heating, published by the Bundy Tubing Co., Detroit 14, Mich., tells the important facts homeowners should know about ceiling radiant heating systems. The brochure is designed to clear up misconceptions about radiant heating and, also, give important technical information on engineering principles to help the layman better understand what he is buying.

The booklet, attractively illustrated with many four-color photographs, explains first things first. It tells what is radiant heating; how it works and how it differs from other types of heating

Galongage

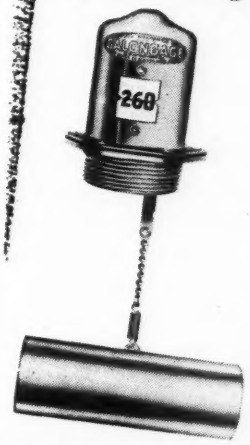
Preferred by —

Customers because it "tells" in gallons and has the most attractive appearance.

Dealers because of its convenient package, simple installation, reliability and customer preference.

Distributors and Jobbers because it costs less to ship and takes only ¼ of the storage space.

Galongage



Crown your installations with quality! Galongage accurately reveals contents of oil storage tanks in readings of 10's of gallons. Underwriters approved. Comes securely packaged in its sturdy cardboard carton which fits into serviceman's tool kit without fear of damage.

Quick, easy installation assured because Galongage requires neither assembling nor disassembling on the job.

Galongage can be installed even in really tight quarters; *only four inches of clearance necessary.* Quality construction throughout. Float *cannot* become oil-logged.

Available for 275, 250 and 220 gallon tanks having depths of 44", 42", 27" and 26" with 1½" or 2" tank openings; also for off-size tanks calibrated in inches. Give your jobs that "extra" touch: use Galongage — the gauge with overwhelming customer appeal!

International

Approved by Underwriter's Laboratories, International is best of the lever arm type gauges for your lower price field. Factory assembled, its flexible float arm permits immediate oil-tight installation.

The large, easily-read numbers on the aluminum dial are calibrated in "eighths"

Fil-thru

Gauge, vent and fill-pipe all in one unit for 55-gallon drums. No tools whatever necessary for installation!

MANUFACTURED BY

APPLIED MECHANICS CO.

167 OLIVER STREET · BOSTON 10, MASSACHUSETTS

WRITE FOR DETAILS TODAY!

systems. The rest of the booklet is designed to answer possible questions the prospective buyer might wish to know.

The brochure also gives the experiences of homeowners who already have installed ceiling radiant systems in their homes and their reaction to this type of heating.

Yale & Towne Mfg. Co. has Catalog on Tri-Rotor Pumps

THE STAMFORD DIV., The Yale & Towne Mfg. Co., New York 17, N. Y., has published a 38-page catalog on its line of Tri-Rotor Pumps and the establishment of a Tri-Rotor Pump Repair Parts and Service Center.

The catalog contains information on the various models in the Yale & Towne pump line, ranging in capacity from 20 to 200 gpm. The catalog has detailed explanations of the operations of the pumps, descriptive matter on pump accessories, and descriptions of the combinations and permutations which are possible.

An interesting feature of the catalog is a complete section devoted to engineering data helpful to a prospective user in determining the size of pump to be used and the method of installation.

Catalog on Air Flow Convectors published by U. S. Radiator

U. S. AIRFLOW CONVECTORS, a catalog published by United States Radiator Corp., Detroit 26, Mich., contains necessary information for calculation and roughing-in of convector installations, including ratings, dimensions, and technical data.

Each type of convector is fully illustrated, including exploded views to show interior construction. Covered are the floor, wall and recessed type cabinets. Also shown are typical piping connections for steam and hot water for use with U. S. "Air Flow" convectors.

❖

R. C. Robertson has been appointed by General Electric, Bloomfield, N. J., as manager of marketing of its Home Heating and Cooling Department. Robinson, who joined General Electric in May 1951, was formerly manager of direct sales for the company's Air Conditioning Div. Prior to coming to G. E. he was eastern district manager of the Superior Valve and Fittings Co. He has also served as assistant general sales manager and manager of national accounts with Chrysler Air Temp, and has been associated with the York Corp. and Carrier Corp.

Donald A. Burns has been named advertising and publicity manager, L. J. Wing Mfg. Co., Linden, N. J. Burns was formerly with John Moynahan & Associates, public relations counsel. Previous to that he was with Westinghouse Corp. and Purolator Products, Inc.

Tod S. Carley and *Frederick C. Brandt* have been appointed by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., as managers of its midwestern and southwestern sales regions, respectively. Carley has been southwestern regional manager since 1949. As manager of the midwestern region, he will replace *C. L. Peterson,*

No. 440
Vented Fill Cap

"BUCKEYE BUILT —to make good installations better!"

Better Oil Burner Accessories mean better installation jobs—and you can't buy better than BUCKEYE! Buckeye-built equipment does an efficient year-in, year-out job without maintenance. The Vented Fill Cap which we show here is a good example. Its heavy cast-iron construction and simple design insure long life. Other Buckeye fittings are just as well-suited for the job they're made to do. For the best in accessories—look for the BUCKEYE name.

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BUCKEYE IRON & BRASS WORKS, Dept. F, Box 883, Dayton 1, Ohio

Strainers • Sludge Pumps • Foot Valves • Fill Boxes
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recently appointed general sales manager of Honeywell's Industrial Division in Philadelphia. Carley joined the firm in 1935. Before becoming southwestern regional manager, he served consecutively as sales engineer in San Francisco, sales manager of the company's stoker and wholesale division, and manager of the company's Detroit office. Brandt, who succeeds Carley as head of the southwestern region, has been commercial sales manager for the southwestern region. Brandt started with the company in the sales department in 1936. He was assigned to the company's Chicago factory two years later and in 1940 became sales engineer in the air conditioning division at Houston. He rose to sales manager of the division, and subsequently to commercial sales manager of the southwestern region.

Edward W. Green has been appointed sales representative of the Utica Radiator Corp., Utica, N. Y., for its Philadelphia sales territory. Green will make his headquarters in Philadelphia.

Book Shelf

Non-technical Dictionary on Petroleum and Products issued

THE ILLUSTRATED Petroleum Dictionary and Products Manual, with more than 6000 entries and 2000 illustrations, places at the command of the layman simple, understandable explanations of the many technical and semi-technical terms employed today to describe both the proper and the improper use of modern fuels and lubricants. This dictionary has been especially prepared for those readers who do not possess a technical knowledge of petroleum products.

The dictionary provides a definition of every term the reader would ordinarily want information on in connection with the origin, history, drilling and production of crude oil.

Also this book gives an elementary definition, including many homely illustrations, of the terms in petroleum chemistry and physics which are or may be useful to sellers, buyers and consumers of petroleum products.

More than 100 ASTM standard and tentative tests of petroleum products are defined in simple language—many of them illustrated. Also, numerous service tests are listed.

Scores of illustrations and definitions of the distillation, cracking and refining processes employed in the manufacture of today's petroleum products and their principal characteristics are given. Also, there are definitions and information about all additives generally used in present day fuels.

Clear, understandable definitions and practical information in connection with fueloils, plus hundred of entries define and describe oils.

The work is described as being three books in one, including the dictionary of terms and an explanation of applications and fundamentals. Covering all petroleum products, it incorporates data on natural gas, L-P gas, refinery gas, with their properties and uses.

Published by Petroleum Educational Institute, 9020 Melrose Ave., Los Angeles 46, Calif. Price, $8.00. Pages, 502. Page size, 5½ x 8½.

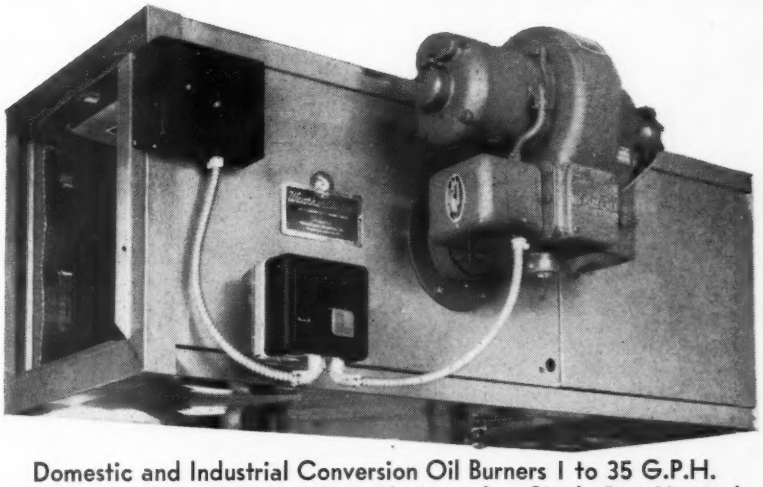
WEATHERTHERM DIRECT-FIRED OIL HEATERS

LO-BOY MODEL SUSPENDED UNIT HI-BOY MODEL

Domestic Units 80,000 To 450,000 B.T.U.—Industrial 400,000 To 2,000,000 B.T.U.

Each Domestic unit will be shipped assembled, the oil burner being shipped separately. Model AL Flanged Burner—Supplied on all Domestic units.

SUPERIOR CONSTRUCTION



QUIET OPERATION

ALSO Domestic and Industrial Conversion Oil Burners 1 to 35 G.P.H.
Steel Boiler-Burner Units—3 Pass Horizontal or Single Pass Vertical

WRITE FOR NEW CATALOG

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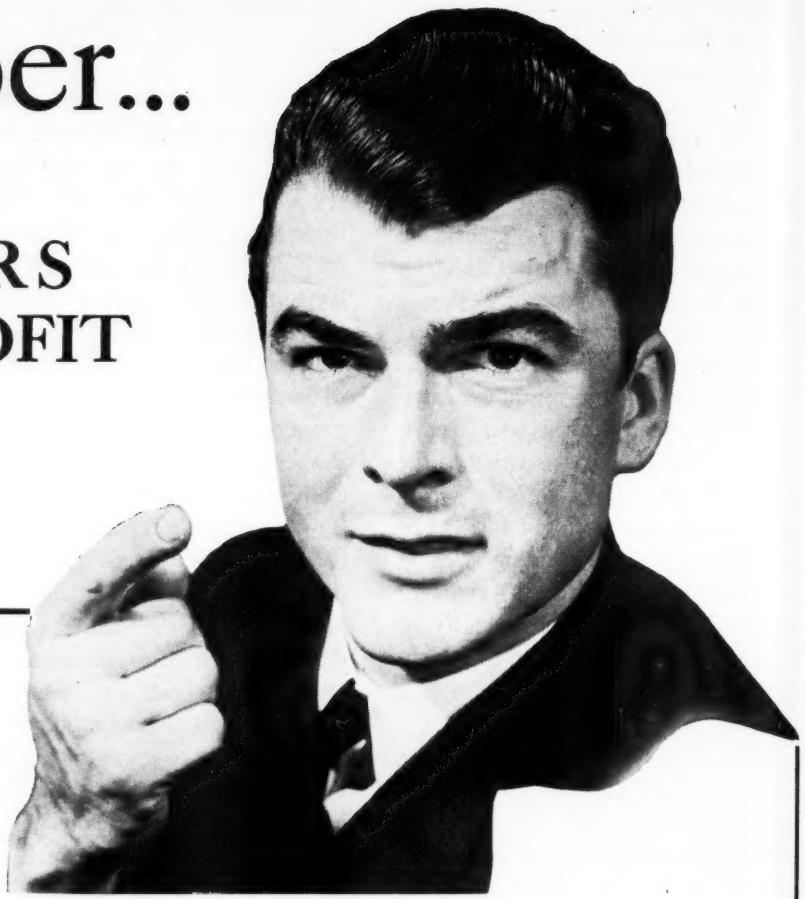
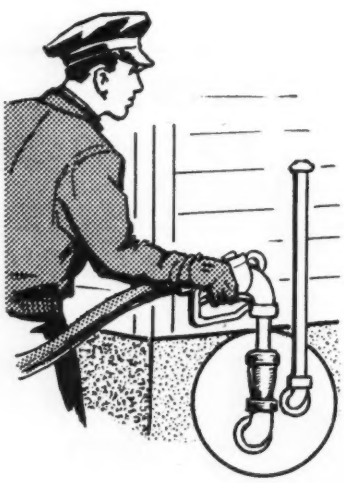
MANUFACTURERS OF QUALITY HEATING PRODUCTS SINCE 1928

Remember...

these are the TIMESAVERS that BUILD PROFIT in Fuel Oil Delivery



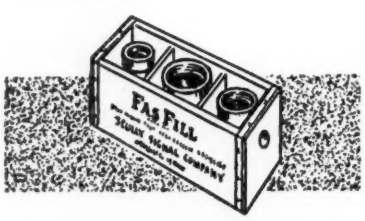
Save Time...



with FASFILL® Connectors . . .

You can be sure of faster fills without blow-back when your trucks carry a set of FASFILL Connectors. Makes quick hook-up between fill pipe and nozzle spout. No tools needed. Just an easy hand turn and it is in place.

Nothing left to do but shove the gun nozzle through the flexible diaphragm head opening in the FASFILL Connector and "let 'er go." Casing wall holds gun in position. Diaphragm and sealing gaskets eliminate need for tightly threaded joints.

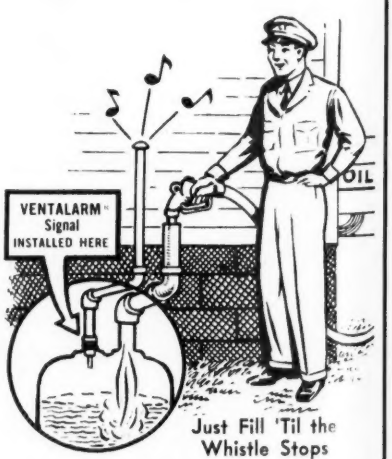


The complete FASFILL Kit includes three connector units in a handy portable case. With these, you can take care of any fill pipe connection from 2" to 1½" to 1¼", male or female. Specify outside diameter of gun nozzle when ordering. **$16.50 complete.**

and the most widely used time saver of them all . . . VENTALARM® Signal

VENTALARM Whistling Tank Fill Signal delivery saves you about 5 minutes at each drop. That's 1 full hour saved in only twelve deliveries! Figure what that means in terms of your driver and truck time.

You can install Model "LC" on an old tank in a few minutes. *Here's a promise: Equip all your old accounts and you'll cut your delivery costs by 20% to 30% —and your customers will love you!*



Just Fill 'Til the Whistle Stops

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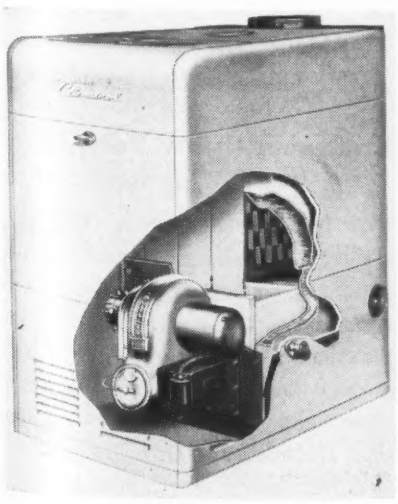
New Products

Each New Products item has an identifying number. If you want more information on any equipment listed here, circle the corresponding number on the reply card appearing on the facing page and mail to us. No postage is required.

Mueller Furnace Co. has oilfired Boiler on Market

AN OILFIRED BOILER, Type 35, manufactured by Mueller Furnace Co., is a cast-iron, sectional, wet nipple boiler with vertical flues. It is available in sizes between 240,000 and 560,000 Btu input, and is designed for "in-between-size" heating installations such as large residences, apartments, small factories and so forth. It is available as a steam or hot water boiler, or for hot water supply installations.

An important feature of the Type 35 boiler is a set of streamlined turbulator fins which are staggered in the vertical flue ways to swirl the rising flue gases for greater heat transfer.



There are four types of boiler sections used with the Mueller boiler: right and left-hand end sections, the regular intermediate sections, and the special intermediate section which is adaptable for a tankless heater. The end sections have a low water leg, assuring good water circulation at the hearth level. Each end section has two 2" flow-tappings to provide versatility of piping and eliminating air pockets in the system. Tappings for a convenient drain cock are provided at the bottom of each of the end sections. The specially designed tankless heater, which is available as optional equipment, is the copper coil type.

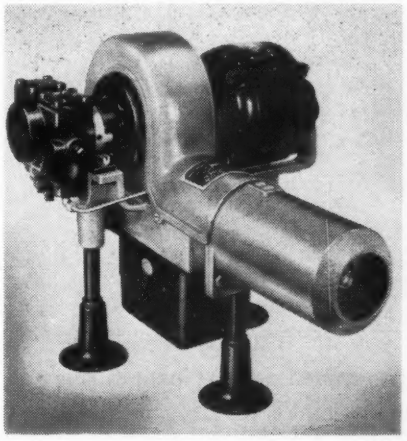
The Type 35 boiler has a high crown sheet which provides for good combustion and an even distribution of heat over each boiler section. The boiler is completely assembled at the factory.

Made by: L. J. Mueller Furnace Co., Milwaukee, Wis.

Circle D44 on card

"Express Head" designed for Boilers in smaller Homes

"EXPRESS HEAD" Silent Glow Oilburner with a firing range from .75 to 1.65,



has been especially designed for compact boilers in smaller homes. It was designed to eliminate pulsation, "coking," burned out heating plants and other undesirable conditions attributed to burning oil in small, tight boilers.

The "Express Head" is equipped with a long hour duty motor totally enclosed, with manual reset overload protector; all-chrome steel ignition rods and a standard transformer with built-in interference eliminator.

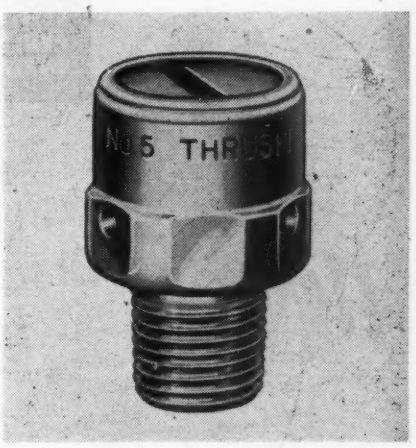
The burner is designed not to create excessively high temperatures which can damage the heating plant, cause annoying roar or rumble, or waste fuel. "Express Heat" is engineered to burn the newer catalytically cracked fuels as well as straight run distillates. The unit is attractively enameled in jet black and bright red.

Made by: Silent Glow Oil Burner Corp., Hartford 5, Conn.

Circle D45 on card

New Thrush air vent Valve for hot water heating Units

NO. 5 THRUSH, an automatic air vent valve for hot water heating systems,



has been announced by H. A. Thrush & Co. It is designed for installation on all types of radiators, baseboards, convectors, unit heaters and high points of mains for fast, efficient venting.

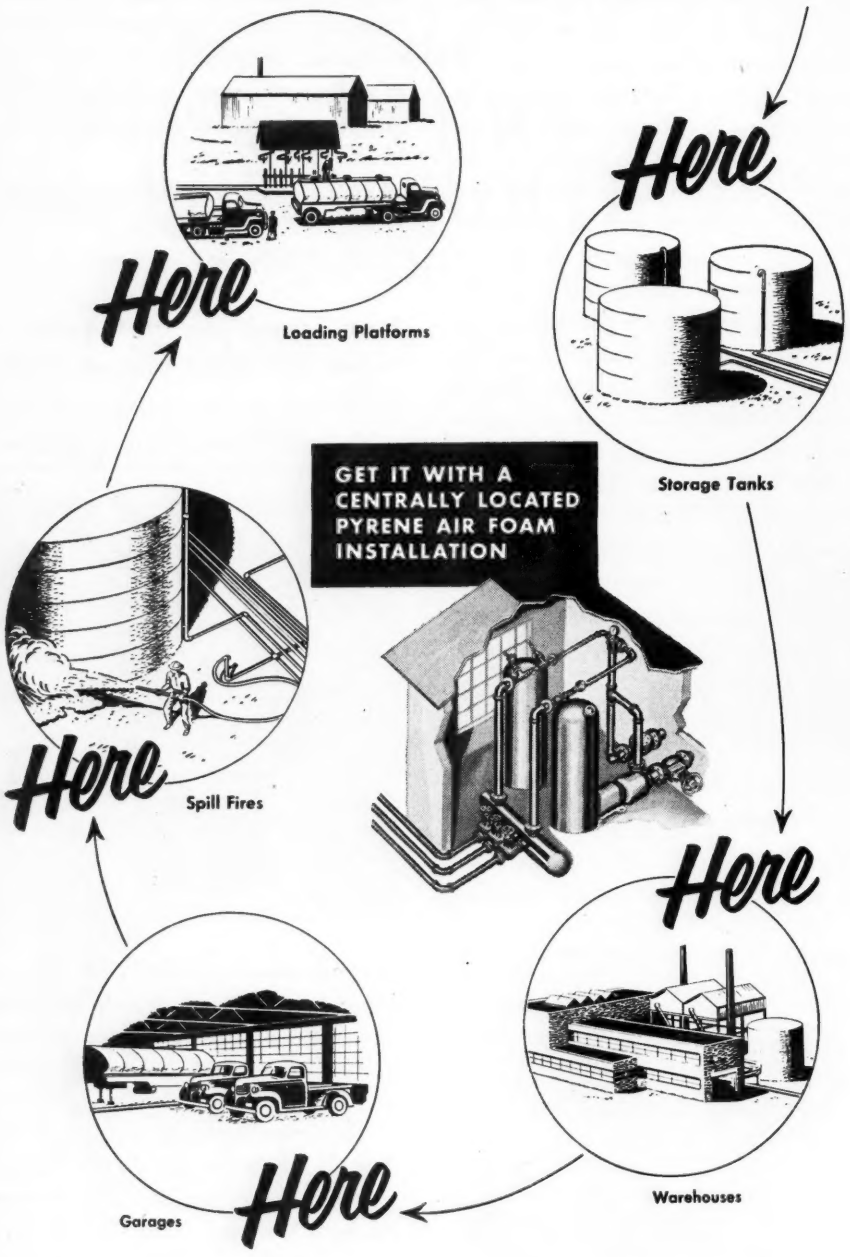
Two important new features in the Thrush Air Vent are faster acting expansion washers which result in more frequent venting cycles and factory fixed setting of expansion washers which assures same quick venting repeatedly.

Manual venting screw has a large slot to accommodate coin or screw driver for initial filling of system. Each valve has a lasting attractive chrome finish. Units measure 1" over-all length by 5/8" diameter. Each valve has conventional 1/8" IPS thread and can be installed horizontally or vertically. The large adjusting screw is never hidden or turned the wrong way.

Made by: H. A. Thrush & Co., Peru, Ind.

Circle D46 on card

YOU NEED PYRENE AIR FOAM PROTECTION



A Pyrene* installation enables you to instantly feed large quantities of air foam to any predetermined point. Pipelines run from centrally located proportioning tanks to all your fixed fire hazards, such as storage tanks, as well as to hose stations. Simply by turning the proper valve, one man can quickly start producing the air foam either at stationary foam makers or portable foam nozzles. Puts large fires out fast; guards against reflash. Inexpensive, too. Protect your investment this easy way. Write for name of nearest Pyrene jobber today.

*T.M. Reg. U.S. Pat. Off.

Pyrene AIR FOAM

PYRENE MANUFACTURING COMPANY

695 Belmont Ave. Newark 8, New Jersey

Affiliated with C-O-Two Fire Equipment Co.

Viscos-O-trol Preheater incorporates Improvements

IMPROVEMENTS incorporated in the Viscos-o-trol oil preheater permits one-setting positive temperature control on both rotary and mechanical atomizing oilburners. Designed to meet the problems of heavy oil atomization, the preheater is recommended for use with any make or model of burner and is described as capable of controlling temperature within 2° F. Low sludge and constant velocity are other features.

The illustration shows Louis R. Kettenring, president, Instrument Laboratory, congratulating E. L. Frost, sales manager and designer of Viscos-o-trol, on the introduction of the company's new model.

Viscos-o-trol is listed by Underwriters' Laboratories and is sold with a guarantee that burner performance and efficiency will be improved when the preheating unit is added to the installation.

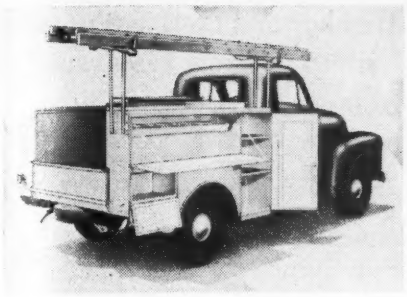
Made by: Instrument Laboratory, Inc., 934 Elliott Ave. West, Seattle 99, Wash.

Circle D47 on card

Craftsman Utility Body has new design Features

NEW DESIGN FEATURES of Craftsman Utility Service Bodies provide recessed handles for all doors, including lower rear compartment. Horizontal compartment door openings have been made wider, allowing easier access to these compartments and more working shelf space when door is lowered.

A new longer length body has been



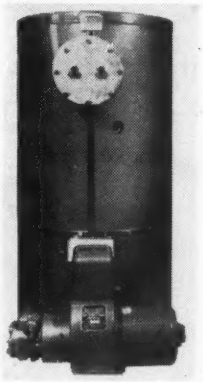
added to the line, 104" for a one-ton chassis.

Made by: Stahl Metal Products, Inc., 3490 W. 140 St., Cleveland 11, Ohio.

Circle D48 on card

Quiet Automatic makes new tubeless burner-boiler Unit

A TUBELESS BURNER-BOILER UNIT, made by Quiet Automatic Burner Corp., features a flush or extended jacket which requires no screws to assemble. It has a 3 gpm tankless coil with built-in combustion chamber. The boiler-burner unit is equipped with a Quiet Automatic flanged oilburner. It handles 480 sq. ft. of water.

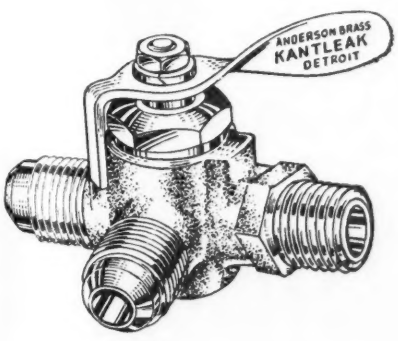


Made by: Quiet Automatic Burner Corp., 33-35 Bloomfield Ave., Newark 4, N. J.

Circle D49 on card

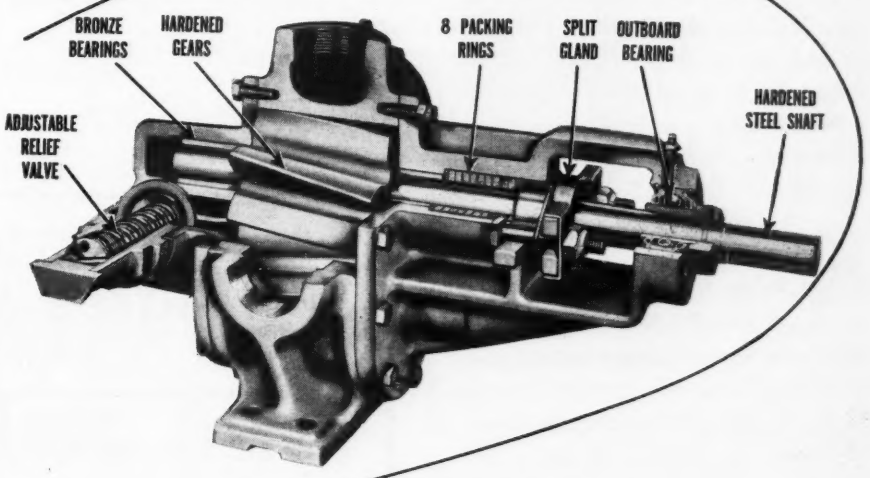
Anderson Brass oil Valve for two tank Hook-ups

KANTLEAK THREE-WAY VALVE, for use in the installation of two fueloil tanks,



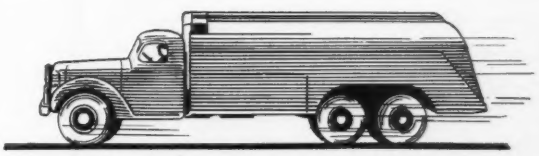
has been announced by Anderson Brass Co. This new valve was devel-

Specify ROPER Rotary Pumps FOR TANK TRUCK SERVICE



EASY TO INSTALL, OPERATE, SERVICE

Get the pump that delivers the goods speedily, efficiently. Specify this Roper 3600 Series pump which is specially designed to serve the needs of tank truck operations. • This is a complete unit, ready for hook-up on any type of drive, and for all conditions of piping and mounting. • It is complete with an adjustable relief valve which assures full capacity when pumping and allows nozzle shut-off without stopping the pump. • Bearings are high-lead bronze . . . packing box is deep and has 8 split-ring packings . . . split gland makes repacking easy . . . gears run smoothly in axial hydraulic balance. • The Roper Series 3600 truck pump is ideal for new installation or replacement . . . is built in 8 capacities from 40 to 300 g.p.m. • Send the coupon below and receive all the facts!



ROPER Rotary Pumps

GEO. D. ROPER CORPORATION
770 Blackhawk Park Avenue, Rockford, Illinois

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oped primarily to accommodate the requirements of the West Coast. It is stocked in 3/8" O.D. Tube x 1/4" Male I.P.T. x 3/8" O.D. Tube size and is supplied with the proper flow specifications.

The solid bottom and packed top "Kantleak" features have been incorporated in this item, and it has a forged brass body to eliminate porosity leakage. Stop lugs are forged on the body to limit the handle travel so that when the handle is against either of the stops a full opening is assured.

Made by: Anderson Brass Co., 5305 Twelfth St., Detroit 8, Mich.

Circle D50 on card

Titus adds door and partition Grille

THE DOOR AND PARTITION GRILLE, added to the Titus line, features louvers locked so securely that there is no rattle when the door is slammed. The louvers are double-locked on the side and are V-shaped, to prevent "see-thru."

This addition to the Airfoil line is said to cut door grille costs up to 35%. The grilles are coated with a prime finish to blend with a variety of colors and are adaptable to any door width. An auxiliary frame is available to quicken installation.

Made by: Titus Mfg. Corp., Waterloo, Iowa.

Circle D51 on card

Thermalink offers two Types of electric oil Preheaters

THERMALINK automatic oil preheaters are available in two principle types. Type PRS has a heavy-duty steel-sheathed element designed to conservative watt-density levels for long life and minimum carbonization. A heavy-duty thermostat for all wattage ratings forms an integral part of the unit. PRS can thus be described a heating element with built-in single-thermostat control.

Type P2RS is identical with the PRS series except that it incorporates a motor control in addition to the oil temperature control. This dual control provides an adjustable thermostat setting for all normal oil-preheating requirements within the general range of 100° to 200° F., plus a fixed control for motor actuation at a point within 100° to 110° F. This secondary control, when interlocked with the motor circuit, prevents the pumping of oil until it has reached the pre-determined temperature. The primary thermostat then takes over and controls the oil temperature with the circulation chamber. No relays or other auxiliary electrical controls are required for correct functioning of these units.

Made by: Electro-Therm, Inc., Silver Spring, Md.

Circle D52 on card

Highboy and Lowboy Furnaces added to Iron Fireman Line

COMPANION Highboy and Lowboy furnaces, two lines of packaged oilburning forced warm air units announced by Iron Fireman, are available in output capacities of 65,000 and 85,000 Btu. Fully assembled and wired at the factory, each unit is shipped as a single package to protect it from damage.

Resilient mounted blowers with permanently lubricated bearings assure quiet operation and do not require

We Agree with *fueloil & oil heat*

Read their article on anti-siphon valves—in the September issue—page 73. This article promotes safety!

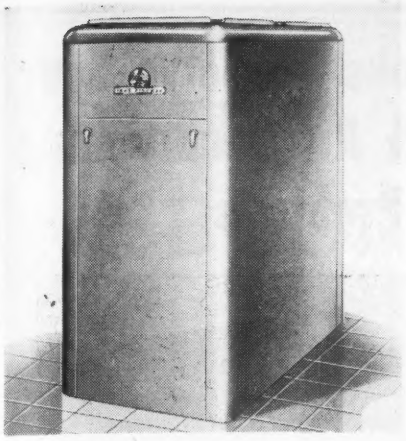
We quote:

". . . an anti-siphon valve eliminates the danger of oil siphoning into a basement from an outside tank. That's why certain safety authorities as well as ultra-conscientious dealers are dead-set in favor of using good anti-siphon valves on all jobs that can have a siphon type of hazard because filling the tanks causes a good deal of the stored oil to be above the level of the oilburners."

Every burner expert should know all about Burn-Rite anti-siphon valves, made in pipe sizes 3/8" to 2"—for domestic, commercial and industrial burner jobs—U.L. approved for Nos. 1 to 5 oils.

Write today for literature and prices!

FREE: Ask us for a reprint of the FUELOIL & OIL HEAT educational article, "Why Use Anti-Siphon Valves?"



further lubrication. Both models use a pressure atomizing burner which consumes No. 2 fueloil. The burner, controls, and wiring are all enclosed within the furnace casing, but are readily accessible through an access door.

Its heavy-gauge heat exchange is designed to operate at moderate metal temperatures without expansion stresses. The units have been engineered for high combustion efficiency.

Made by: Iron Fireman Mfg. Co., Cleveland, O.

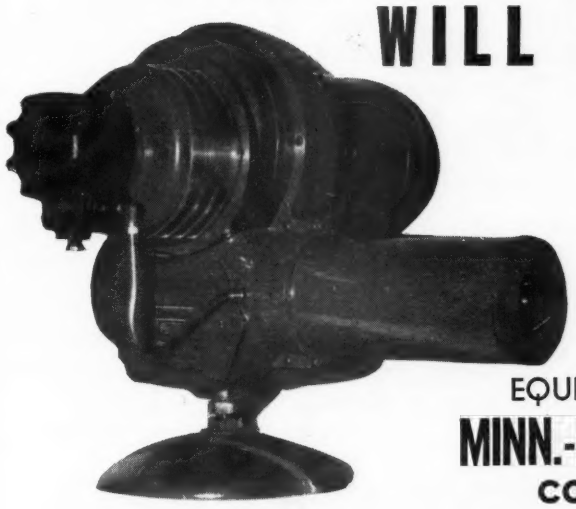
Circle D53 on card

Let's Meet Competition TOGETHER!

Our NEW Model A-a

RATED FROM .75 to 3.25 GPH.

WILL DO IT



Completely Precision Machined and Aligned

EQUIPPED WITH MINN.-HONEYWELL CONTROLS

Easy Access for Servicing

A TOP Quality Burner At A New LOW Price

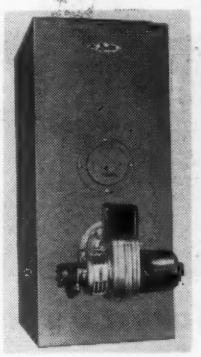
We invite your inquiry.

BURN-RITE PRODUCTS CO.

354 Sawmill River Rd. Yonkers, N. Y.

Delta Heating Corp. develops low-cost gravity Furnaces

DELTA HEATING CORP. has developed a new low-cost gravity warm air furnace, Model GA-75, oil or gas-fired, designed primarily for low-cost housing. Model GA-75 has a bonnet output of 75,000 Btu/hr. The casing measures 52" in height, 22¼" in width and 28¼" in depth. Oilfired models are equipped with a Delta flanged gun-type oilburner. This new furnace is factory assembled with a full-sized bottom plate to prevent air leaks when installed on an uneven floor.



Made by: Delta Heating Corp., Trenton, N. J.

Circle D54 on card

Flaring tool has ball bearing swivel Head

TALON TOOLS has announced a new Ball Bearing swivel head now featured on heavy-duty and standard model flaring tools. This tool flares with one-half the effort of fixed head tools, reduces friction, and eliminates strain at the lip of the tubing being flared. Another advantage is that the Ball Bearing pushes aside metal chips or dirt so that they do not get into the flared surface. These tools come permanently grease-packed and sealed at the factory.

Made by: Talon Tools, North Arlington, N. J.

Circle D55 on card

U. S. Airco has new summer Air Conditioner for Homes

A HOME AIR CONDITIONER, which converts any forced warm air heating system into an all-year air conditioning unit, is being produced by United States Air Conditioning Corp. The unit, which utilizes the ductwork, blower and filters of the warm air system, can be installed in new or exist-

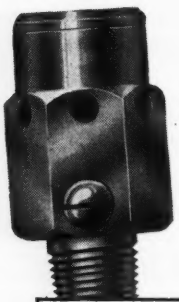
YOU'LL LICK YOUR AIR PROBLEMS WHEN YOU

Buy Taco

AIR VALVES

THEIR *Greater Dependability*

MEANS LESS SERVICE FOR YOU



TACO-VENT

Automatic

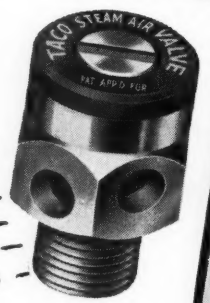
HOT WATER AIR VALVE

automatically vents radiators, convectors and baseboard radiation.

REQUIRES NO ADJUSTMENT

biltin water control prevents leaking

TACO'S *New Quiet* **STEAM AIR VALVE**



NO SNAP —
NO POP —
NO HISS —
NO PING —

vents steam radiators, convectors, mains. It's fast venting, simple, silent and good looking.

Both CAN BE INSTALLED IN ANY POSITION BUT UPSIDE DOWN

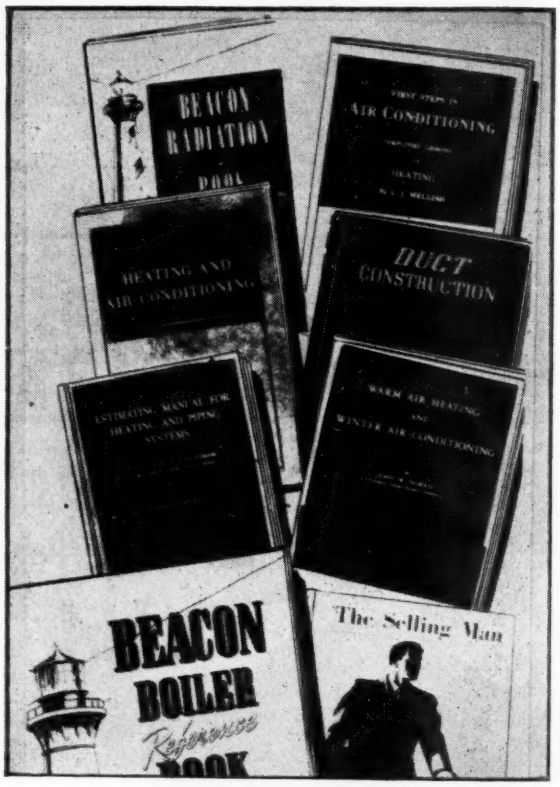
Better Heating-Better with Taco

Taco

TACO HEATERS, Incorporated
137 South Street • Providence 3, R. I.

READ TACO'S OTHER ADS IN THIS ISSUE

Eight Books To Solve Your Heating & Air Conditioning Problems



Letters are received daily from readers asking us for various Heating & Air Conditioning books which they are anxious to buy.

We, therefore, have compiled this list to acquaint all our readers with the books that are available and the price of each.

PRICE LIST

- ☐ BEACON BOILER REFERENCE BOOK . . . $3.00
- ☐ ESTIMATING MANUAL $3.00
- ☐ BEACON RADIATION REFERENCE BOOK . . $4.00
- ☐ THE SELLING MAN $4.00
- ☐ HEATING & AIR CONDITIONING $6.25
- ☐ DUCT CONSTRUCTION $3.00
- ☐ FIRST STEPS IN AIR CONDITIONING . . $2.00
- ☐ WARM AIR HEATING & WINTER AIR CONDITIONING $8.50

PLEASE MAIL REMITTANCE WITH ORDER

HEATING PUBLISHERS, Inc.

2 West 45 St., New York 36, N. Y.

OILHEATING BOOKS

OILHEATING SNAGS

This book gives the solution to many of the Everyday Snags that annoy you in installation and service. We've been working on them for years. They are all simple and practical answers to the most common goat-getters on jobs. It's an 8½ by 11 inch book of 64-pages.

$1.

HEADING OFF TROUBLE IN DOMESTIC OILHEATING

This book contains articles about the most important precautions to take in installations and service and thereby cut down the number of service calls. The selection is about those things which give the greatest amount of future trouble for service men. A highly practical compilation of pieces from FUELOIL & OIL HEAT. It's a 64-page book 8½ by 11 inches.

$1.

INSTALLING THE DOMESTIC OILBURNER

This is the first practical guide on oilburner installation. It contains the most significant articles from FUELOIL & OIL HEAT that cover all phases of installation step by step. It is 8½ by 11 inches and contains 64 pages. Illustrated with numerous diagrams, charts and photos.

$1.

LOW PRESSURE BURNERS

Only book other than manufacturers' manuals that gives a full picture of low pressure burner principles of operation and construction—Winkler, Oil-O-Matic, G. E., Hart, Hev-E-Oil. Skeletonized diagram of each make of burner makes them more understandable. The new booklet is 8½ by 11 inches, contains 20 pages.

$1.

Please, no C.O.D. orders! Mail remittance with order. We pay postage.

HEATING PUBLISHERS, INC.

2 W. 45 St. New York, 36

FOR MORE EFFICIENT

One Pipe Hot Water Systems

Buy Taco

VENTURI FITTINGS

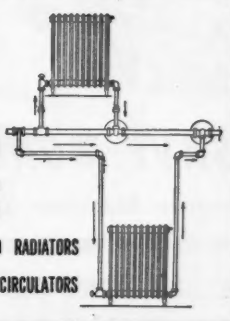
Only One

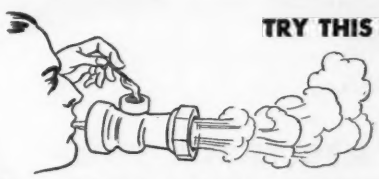
TACO VENTURI FITTING

per radiator . . . on the return
(use an ordinary tee on supply)

SAME FITTING HANDLES UPFEED OR DOWNFEED RADIATORS

WORKS EQUALLY WELL WITH LOW OR HIGH HEAD CIRCULATORS





TRY THIS FOR YOURSELF

Blow smoke through Taco Venturi fitting while holding lighted match on return. The flame is sucked into return but smoke goes out other end only.

Better Heating-Better with Taco

Taco

TACO HEATERS, Incorporated
137 South Street • Providence 3, R.I.

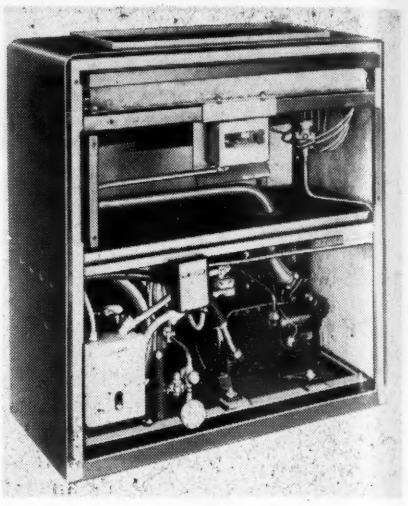
READ TACO'S OTHER ADS IN THIS ISSUE

ing homes. It requires two connections to the duct system, a hook-up to the water supply and drain, and electrical connections.

The USAIRCO home air conditioner is built in 2, 3 and 5 hp. models and features angle iron frame construction with heavy gauge removable panels. The cabinet is bondarized, then finished with corrosion resistant base coat and gray-green baked enamel. Heavy glass fiber lining is used throughout for thermal and sound insulation.

The unit's controls are hidden under the hinged nameplate. A three-position switch permits two stages of operation—cooling or ventilation only. A built-in thermostat provides automatic control of room temperature.

The condensing unit is of the semi-hermetically sealed type with shell and coil type condenser, spring mounted on a floating base to prevent transmission of vibration through the unit and the home. Internal water piping, complete for connection to city water or cooling tower for recirculation, is provided.



A continuous fluted-fin type cooling coil, with staggered seamless tube construction, is equipped with a multi-port thermal expansion valve.

Made by: United States Air Conditioning Corp., Minneapolis 14, Minn.

Circle D56 on card

BLACKMER TRUCK PUMPS
save
and
. . . SAVE TIME AT THE NOZZLE . . .
because Blackmer Truck Pumps deliver full-rated capacities of 40, 60 or 100 gallons per minute at easy engine speed.
SAVE MONEY WITH THE PUMP . . .
because Blackmer Truck Pumps provide all operating economies no others can offer with:
BALL-BEARING CONSTRUCTION
NONMETALLIC VANES
CONTROLLED PRESSURE
INSTANT PRIMING
QUIET OPERATION
NEW BLACKMER TRUCK PUMP CATALOG LISTS NEW MODELS
Read how Blackmer Truck Pumps are better—maintain efficiency—last longer—are self-adjusting for wear. Write for new "Bulletin TP3A" today—
BLACKMER PUMP COMPANY
GRAND RAPIDS MICHIGAN

Mor-Sun offers complete Line with just a few basic Units

THE REVAMPED MOR-SUN LINE of furnace units offers a complete line of furnaces in just a few basic units. Each unit has been designed for quick conversion to oil or gasfiring.

Important new features on the Mor-Sun oilfired furnace units are the placement of the electrode-nozzle assembly and transformer on a hinged door which can be swung open to ex-

pose firing assembly and inside of the burner, and the Mor-Sun thermostat which is calibrated by ranges: cooler, comfort zone and warmer.

Other features of the units are assembled burners, ready for immediate installations, a steel insulated channel which is installed in the hot zone of JMT model through which wiring is run; separate packages of burner assembly and basic furnace, making for lighter packages and easier handling.

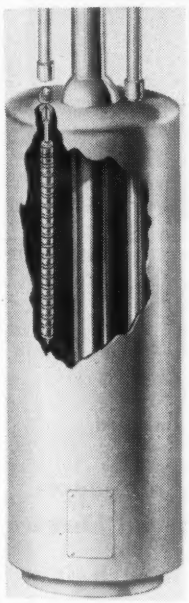
Quiet operation, the manufacturer says, is achieved by the use of heat resistant synthetic rubber mountings which absorb noise and vibrations.

Made by: Morrison Steel Products, Inc., Buffalo, N. Y.

Circle D57 on card

McRay Protecto Rods prevents scale Formation in Heaters

MCRAY PROTECTO RODS are made in the form of a series of zinc slugs separated by brass washers and copper discs, mounted on a stainless steel core, and are designed to control boiler electrolysis, remove scale and prevent its formation in hot water heaters.



When submerged in water, the plates set up an electromotive force which renders inert the salts and minerals and, at the same time, removes scale and corrosion. Since the electrolytic action takes place within the rod, it requires no electrical bond with the tank.

Installation is accomplished by inserting the rods through the element spuds and standing them on end in the bottom of the tank. No extra plumbing is required. Regular size for household use handles a capacity of 300 gallons of water per day. Larger sizes are available.

Distributed by: George T. Hall Co., 5625 W. Washington Blvd., Los Angeles 16, Calif.

Circle D58 on card

Correction

IN THE AUGUST ISSUE, Air-Base forced warm air baseboard convector units were incorrectly described as functioning without cold air returns. Actually, Eli Atwood of Pack-Duct Mfg. Co. advises that while an Air-Base is designed to operate with one or two central returns, it will not operate without cold air returns. The correct statement should be, "The location of one central return grille is not important so long as sufficient area is provided so that the furnace does not starve for air."

Made by: Pack-Duct Mfg. Co., 906 Elm St., York, Pa.

Circle D59 on card

A-P Controls heat Control designed for space Heaters

AN AUTOMATIC temperature regulation unit, made by A-P Controls, fits almost every type space heater and requires no wiring and no wall thermostat. It takes only a few minutes to

So DIFFERENT

It gets U.S. Patent

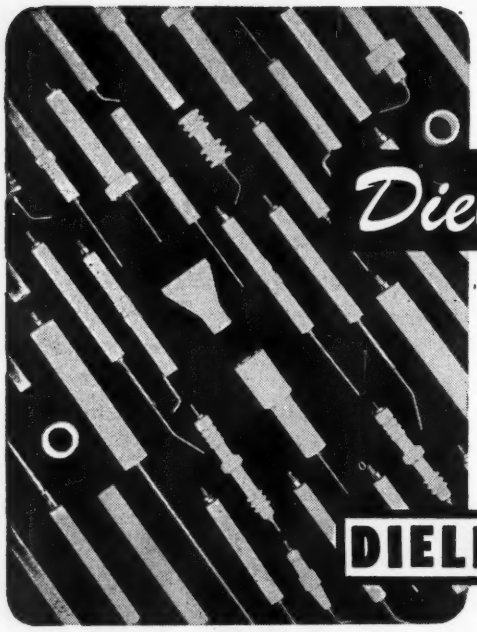
SINCLAIR ANTI-RUST FUEL OIL

—with amazing rust inhibitor, RD-119®—is so different from "old-type" fuel oils it has been awarded a U. S. Patent. This great new product of Sinclair Research, when used regularly, *actually* protects against rust and corrosion that clog filters and burner nozzles—reducing service calls and building good will *for you!*

SINCLAIR

FUEL OIL WITH RD-119®

ANTI-RUST Super Flame ®



85% YEAR AFTER YEAR OF ALL NEW OIL BURNERS ARE EQUIPPED WITH...

Dielectric IGNITION ELECTRODES

For many years DIELECTRIC ignition assemblies have been the overwhelming choice for new burners or as replacements. They're ahead for 5 big reasons:

BETTER SERVICE ON NEW DESIGNS • QUICK DELIVERY OF STANDARD PARTS
AUTOMATIC PRECISION PRODUCTION • HUNDREDS OF STYLES • LOW PRICES

DIELECTRIC electrodes are the finest available in standard types and in special sizes and shapes, all UNDERWRITERS' approved.

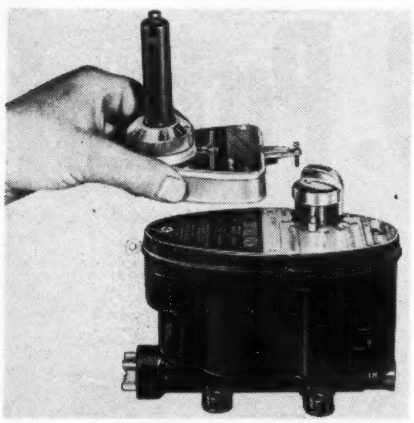
DIELECTRIC also makes high tension cable assemblies and bus bars for transformer and electrode layouts for any burner hookup.

DIELECTRIC

Go DIELECTRIC and you'll never again settle for lesser quality or service.

PRODUCTS CO., Inc., 125 Virginia Ave., Jersey City 5, N.J.

. . . . New Products



attach as it is only necessary to remove two screws from the regular manual heater control, set the automatic control in place, and then replace the screws.

A dial on the control is used to set the temperature desired. The unit will automatically adjust the burner flame to maintain this temperature. The control unit is completely self-contained.

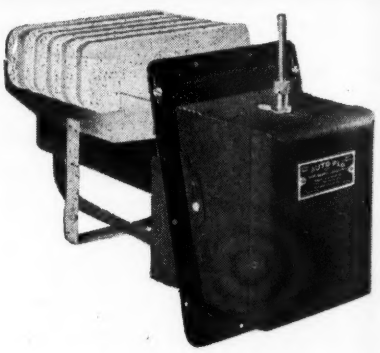
Made by: A-P Controls Corp., 2450 N. 32nd St., Milwaukee 45, Wis.

Circle D60 on card

Auto-Flo Humidifier contains no Float, no moving Parts

THE AUTO-FLO "100" automatic warm air furnace humidifier contains no float and no moving parts to adjust. It fits any type of standard warm air furnace. Only one adjustment is required at the time of installation which is to position the orifice for local water pressure.

An operation of the "100," the weight of the water in pan counterbalances the water pressure at an orifice located at the end of the feeder pipe. As this water evaporates, it lightens the pan and causes more water to flow from the orifice into the pan. Because this cycle operates instantaneously, a constant water level is maintained in the pan.

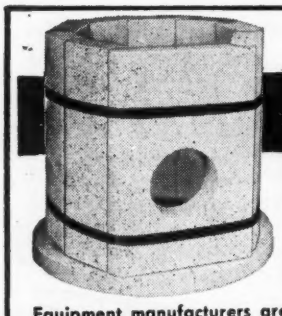


Made by: Auto-Flo Corp., Detroit, Mich.

Circle D61 on card

Norge Heat Div. introduces new combination oil Furnace

A SERIES of combination horizontal and downflow oil furnaces, F610 Se-



FOR SATISFIED CUSTOMERS — INSTALL . . .

AMERICAN COMBUSTION CHAMBERS

100% "KILN-CURED" LIGHTWEIGHT REFRACTORIES

Equipment manufacturers are invited to bring their special design problems to us.

HIGH QUALITY

American Chambers are made from the finest, high grade refractory materials combined with proper "Kiln-curing". They will withstand 2500 degree temperatures and will not crumble in water.

EASY INSTALLATION

Controlled manufacturing and careful design of American Chambers makes for fast and easy installation. The flexible pieces fit together with a minimum of effort.

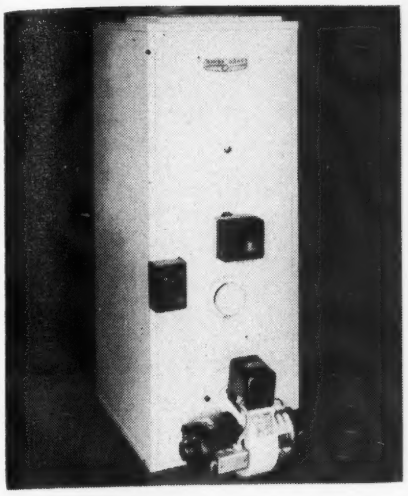
TOP PERFORMANCE

Because of the high quality of materials used in American Chambers they provide faster heat-ups, quieter burner operation and savings in fuel.

AMERICAN

JOBBERS: Write today for price sheet.

AMERICAN CLAY FORMING CO.
TIFFIN, OHIO



ries, manufactured by Norge Heat Div., utilizes the counterflow heat exchange principle. It can either be fired as a downflow furnace in a vertical position for perimeter heating or as a horizontal unit for installation in attics, crawl spaces or suspended from ceilings.

Better than 80% efficiency, the manufacturer says, can be achieved by the unit in either position. Heat transfer is through a 12 gauge heat exchanger. The combustion chamber is made from stainless steel.

The first sizes released are the 80,000 and 100,000 Btu models. A conventional high-boy model is also available. The cabinet is finished in white gloss enamel.

Made by: Norge Heat Div., 346 E. South St., Kalamazoo, Mich.

Circle D62 on card

Lightweight Chimney Top Saves on Installation

A NEW, LIGHTWEIGHT Vitroliner prefabricated chimney has been designed by Condensation Engineering Corp., to harmonize with the lines of larger ranch houses.

The rain cap and circular baffle plate are welded into one single unit, to protect the chimney from back-draft as well as rain and weather. The flashing and flue housing are tailor-made to fit the individual chimney, which eliminates cutting and fitting on the job and cuts installation time and costs.

The chimney can be located anywhere in the house but should extend two feet above the roof peak. Vitroliner is approved for all fuels in one or two story buildings.

Made by: Condensation Eng. Corp., 3511 W. Potomac Ave., Chicago 51, Ill.

Circle D63 on card

Met-L-Check detects Cracks in metal Parts

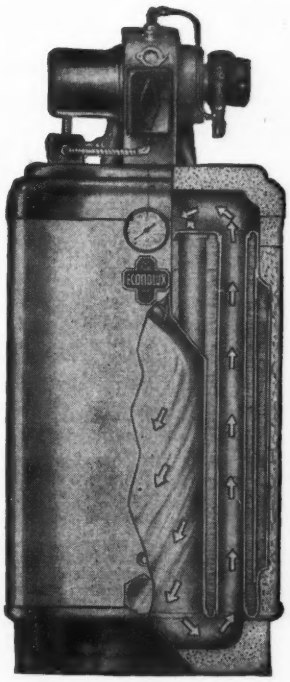
MET-L-CHEK, a process to detect cracks, pores and cold shuts in all types of metal parts, which may be microscopic in size and not visible to an inspector, makes use of a dye and developer. Parts first are swabbed with a highly penetrant red dye solution, which is washed away with water. Surface tension of the water prevents it from penetrating so that only the dye in the cracks remains.

The part is then swabbed with a developer solution, which dries quickly and leaves a white coating which sucks the dye out of the cracks. The dye spreads out and leaves a vivid red stain, visible to the naked eye.

Made by: Met-L-Check Co., 121 North Prairie Ave., Hawthorne, Calif.

Circle D64 on card

A "midget" that does a whale of a **two-way** *heating job!*



The ECONOLUX is easy to sell, easy to install, easy to service. It comes to you completely assembled—all ready to hook up to water, power and flue lines.

JOHNSON'S

ECONOLUX 150-VW

Supplies abundant Hot Water Heat and ample faucet Hot Water for a 10-room home!

This amazing "midget" is making lots of new friends among both users and sellers. In spite of its compactness (it's only 24"x60" in size) it generates 150,000 B.T.U. output total . . . all the heat a good sized home in a cold country can use—and from a separate, outer-jacket compartment, it supplies automatic, day-and-night hot water as well.

Homeowners are delighted with its capacity . . . and amazed at its low fuel-consumption and efficiency. If you need an automatic heating-and-hot-water unit for domestic use . . . you ought to check up on the performance and the cost of this new Econolux.

ALSO AVAILABLE FOR STEAM RADIATOR SYSTEMS

ECONOLUX Model 150-VS

For use with steam heating systems, the ECONOLUX 150-VS is built without the outer water-heating jacket. Otherwise it is the same as the ECONOLUX 150-VW in size, capacity and operation.

Johnson Oil Burners

Builders of fine Oil Burner Equipment since 1903

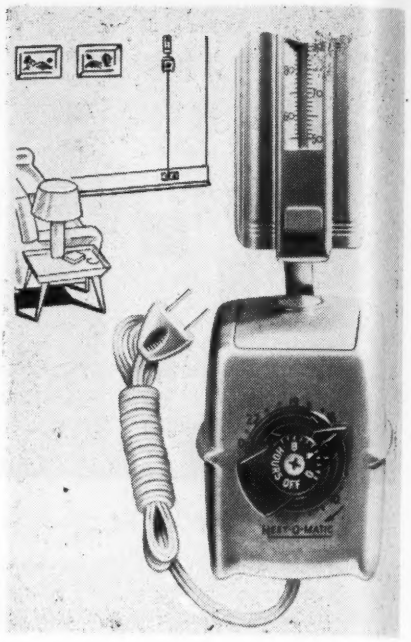
S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
401 No. Broad St., Philadelphia 8, Pa.

Heet-O-Matic, night time Thermostat, redesigned

HEET-O-MATIC, the night-time thermostat heat control, has been redesigned and the new, 1953 model is now being offered. A smaller, jewel-box design was first introduced in 1951. The unit has been engineered to automatically turn the heat up in the morning before the family arises and down at night to save fuel.

No electrical connection between the present thermostat and Heet-O-Matic is required so it operates any non-clock make. The unit fastens by a uniform bracket just below the thermostat either by means of the cover screw or by fastening to the wall. It can be set to turn the heat down at any hour and to turn it back up from one to 10 hours later.

Heet-O-Matic operates by having a switch which turns on a small heating coil when the clock reaches the bed-time setting. This coil is calibrated so it surrounds the thermostat with an additional 10° of heat, thus shutting



down the heating system until the house temperature drops 10°. When the set time arrives for warming up the house in the morning, the heating coil is automatically switched off. The actual temperature of the house then controls the thermostat which turns on the heating system until the house temperature rises to its normal setting.

Made by: Automatic Controls Corp., Ann Arbor, Mich.

Circle D65 on card

Washable, plastic air Filter developed by Goodyear Tire

A WASHABLE, plastic air filter for forced draft hot air furnaces and air conditioning systems, capable of catching pollen from the air and even minute solids in cigarette smoke, has been developed by the Goodyear Tire & Rubber Co. The new filter is described as a self-charging electrostatic unit which takes useful advantage of the dielectric properties of certain plastic films, resins and waxes.

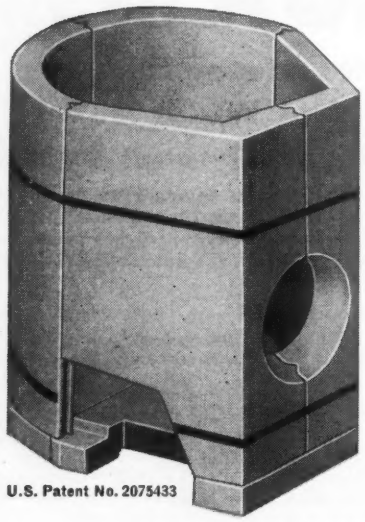
The material used in the filter is a thin polyethylene film, shredded into a porous mass, which when exposed in a current of air, picks up an electrostatic charge. Economical advantage of this type of filter, the manufacturer says, is that it can be cleaned easily in the home, store or office by rinsing in cold water. No detergent is required, and after rinsing, the filter can be drained for several minutes and re-

LITE • CAST
COMBUSTION CHAMBERS
QUICK HEAT LONG LIFE

PEAR
ROUND
SQUARE
MODERN

Monogram

HAS 137 STANDARD DESIGNS AND SIZES OF LITE • CAST INSULATING REFRACTORY COMBUSTION CHAMBERS FOR . . .
ALL BOILERS & FURNACES



U.S. Patent No. 2075433

TONGUE & GROOVE JOINTS
•
HIGHER SIDE WALLS
•
DOUBLE SEAL BETWEEN FLOOR AND WALLS
•
PRE-CAST FLOOR
•
AIR SPACE BENEATH FLOOR

4 SHAPES
•
25 SIZES
•
.75 to 12 G.P.H.

CLOSE TO ONE HALF MILLION INSTALLATIONS

COMPLETE PACKAGE INCLUDES: Combustion Chamber, Back Fill, Steel Bands and Finishing Cement.

STANDARD FOR 20 YEARS

MONOGRAM PRODUCTS CO., INC.
731 NORTH 35TH STREET • PHILADELPHIA 4, PENNA.

stored to service while still damp. This type filter may be cleaned over and over again without loss of performance.

Made by: Goodyear Tire & Rubber Co., Akron, O.

Circle D66 on card

Light heavy-duty Diesel brought out by Autocar

THE AUTOCAR CO. has developed a new Diesel-powered tractor, designated Model DC-65-T, a companion vehicle to a light-weight, gasoline-powered job the company brought out in the heavy-duty field late last year. The Diesel, which weighs 9,750 lbs., has a gross combination rating of 50,000 lbs. The power plant is a Cummins Diesel with overhead valves. The cylinder block is cast integral with the crankshaft and provided with removable cylinder liners. The engine develops 150 horsepower at 2500 revolutions per minute.

The new Diesel tractor is produced in two wheelbase lengths: 142 inches and 159 inches. Standard tires are 10.00/20, but the wheels can take up to 11.00/22.

Made by: Autocar, Ardmore, Pa.

Circle D67 on card

Skuttle Humidifier #600, modernized and remodeled

SERIES 600 HUMIDIFIER has been modernized and remodeled by the Skuttle Mfg. Co. New features include: chrome or nickel plated brass float valve parts; blown glass float; porcelain enamel steel evaporating pan and float chamber and an aluminum rack for evaporating plates.

The aim of these improvements is to

avoid water damage. The porcelain enamel is acid and alkali resistant—inert to any water encountered. Chrome or nickel plating on the brass valve parts, and the aluminum plate rack, avoid exposure of electrically active metals to water and eliminates electronic corrosion. The blown glass float is inert to all kinds of water and is seamless, no soldered joints to cause trouble.

The self-flushing, self-cleaning features of Series 600 have been retained. The humidifier is cleaned by flipping the flushing switch. This causes the humidifier automatically to fill with water, drain through a siphon and, after restoring the switch, to refill to

There's More than Meets Your Eye!

Cutaway View of Utica 'I' Boiler-Burner Unit

Yes, much more than appears at first glance... in fact, more fine features than you'll find in any other boiler—features that will please both you and your customers. First, there's the nine-inch top nipple in the Utica Series 'I' Boiler, which is the ideal location for a full-size tankless heater in the boiler's hottest water with positive circulation from every section. Other features include wet base construction ... conveniently located controls ... correctly designed combustion chamber for oil burner ... fully efficient in five sizes ... for either steam or hot water ... made of cast iron, the life-time metal, attractive fully insulated jacket. It's the quality boiler of the heating industry!

UTICA RADIATOR CORPORATION

UTICA 2, NEW YORK

operating level. Parts of Series 600 visible outside of the furnace are now finished in gray enamel.

Made by: Skuttle Mfg. Co., Detroit, Mich.

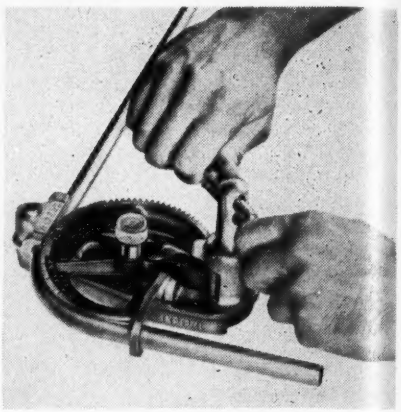
Circle D68 on card

New gear-type tube Bender offered by Imperial Brass

A UNIVERSAL TUBE BENDER, No. 270-F, made by The Imperial Brass Mfg. Co., will bend any type of tubing including hard drawn copper and hard temper steel. The bender is of the gear type. It is so constructed that it can be positioned on the tube at any point where a bend is desired, thus bends can be made even when one end of the tube is connected. It can be used to make right or left hand bends, return bends, offset bends and right angle bends.

Its high gear ratio is designed to make bending much easier. Benders can be held by hand, clamped in a vise or bolted to a bench. An extension handle can be obtained which permits holding the bender in a pipe vise.

A separate bender is used for each



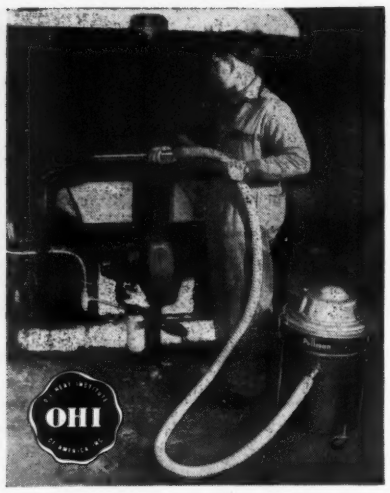
size of tubing and benders are available for tubing from 3/8" to 1 1/8" outside diameter.

Made by: The Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago, Ill.

Circle D69 on card

McDonnell announces No. 202 combination T & P Valves

MCDONNELL No. 202 Series is a combination of the No. 201 temperature and No. 230 pressure relief valves in one compact assembly for hot water tanks and heaters. The T & P valves



Efficient design lowers price of Pullman Furnace & Boiler Vacuum Cleaner

Here is the vacuum cleaner that gets you into the cellar and allows cleaning jobs to develop into profitable service work. Light in weight and very portable — only 30 pounds, yet has 1½ bushel capacity. No outside bag to worry about. Clean, neat appearance for working in living quarters of the home. Integral motor, internal filter, and circular air flow increase the efficiency of the PULLMAN vacuum and allows manufacturing cost savings which are reflected in its low price. No maintenance to worry about — just empty the container. Ball bearing, life lubricated, sealed motor. Electro-welded steel container. Equipped with 35′ cord, 10′ hose, and 27″ crevice tool for only $159.50 list, less trade discounts. Send for circular and name of nearest jobber.

NEW PULLMAN *Disposable* PAPER FILTER

New disposable paper filter protects fabric filter from soot acids and clogging. No more after-hours filter cleaning — just toss away and drop in clean filter paper.

CONVERTS TO POWER BLOWER in jiffy. Blow out fuel tanks, clean air ducts, registers, beams, floors and in shop.

Pullman

PULLMAN SALES CORP.

MFR: BOSTON 19, MASS.

GIVE YOUR CUSTOMERS THE BEST

NEW SPARKLER FUEL OIL FILTER

with the rayon filtering element traps all storage tank dirt, rust and moisture that could possibly plug the fine nozzle parts. Makes a smooth operating burner and cuts emergency service calls.
Install a Sparkler Filter along with summer servicing of burners and make a sweet extra profit on the same call.

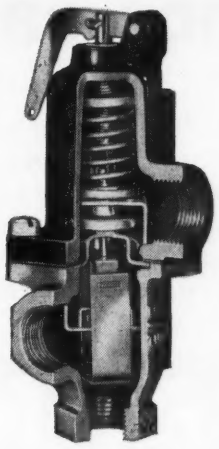
FREE **to all oil burner dealers—postcards for soliciting summer service business. Write for sample and particulars.**

FOUR FILTER SIZES AVAILABLE

	For average annual oil consumption of	Recommended for
OB-2	2000 gals.	Average home burner.
OB-4	4000 gals.	Apartment building and light industrial.
OB-8	8000 gals.	Heavy industrial.
SH-3	1000 gals.	Space heaters and other small burners.

Refill discs are conveniently packed 12 to a package. The same discs are used on all OB models.

SPARKLER MANUFACTURING CO. MUNDELEIN, ILL.
Makers of fine filtering equipment for industrial use for over a quarter of a century



No. 202

are of the automatic reseating type.

For temperature relief the No. 202 embodies the Vernatherm element; it starts to open valve at 188° F.; reaches full capacity at 208° and reseats drip-tight again at 183°.

In addition to the inlet and drain connections, the No. 202 has a third ¾" connection so hot water supply to fixtures can flow right through the valve. This gives the thermostatic element a truer picture of tank temperature which means quicker response to any variations.

Waterways throughout the valve are large and free-flowing. All operating parts are of non-ferrous, corrosion-resistant materials. Factory settings are non-adjustable, tamper-proof. Test level has independent action, so that tying or holding it down cannot interfere with automatic operation of the valve.

Made by: McDonnell & Miller, Inc., 3500 North Spaulding Ave., Chicago 18, Ill.

Circle D70 on card

Berger Furnace designs perimeter panel System

THE PERIMETER PANEL made by Berger Furnace Co., looks like usual wooden baseboards and operates with standard basement ductwork or with 4" basement pipes. Direct heat panels in each room provide radiant heating.

The convected and conditioned air is introduced into the rooms through the baseboard panels placed along the entire length of the outside walls. Hot air accumulating at ceiling level is returned to the unit through high wall or ceiling grilles. It may be used in all types of dwellings and with any type of heating equipment.

Made by: Berger Furnace Mfg. Co., 5920 Centre Ave., Pittsburgh, Pa.

Circle D71 on card

Perfection blends Heater with modern Furnishings

STYLED TO BLEND with modern household furnishings is Perfection's new low-boy heater, Model H807 oil space heater, with low silhouette and mahogany baked enamel finish. With a 63,000 maximum Btu output, this low-built heater is engineered with "T" Formation heat-extracting principle, developed by Perfection.

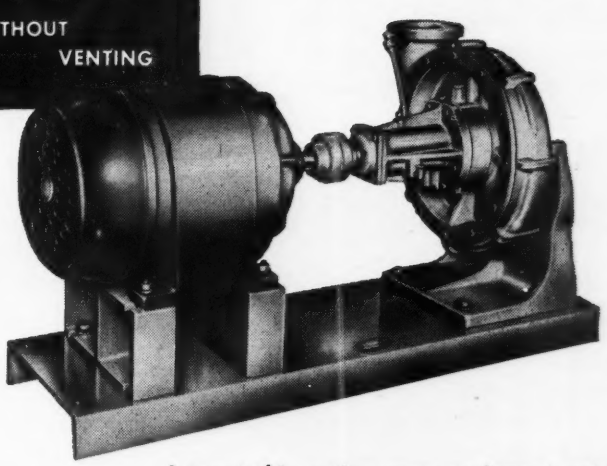
This heater has a self-vaporizing burner, the vital parts of which are made of stainless steel. The large porcelain-enameled top grille is readily removable for cleaning or dusting interior parts. Model H807 features an automatic draft regulator, convenient

POSITIVE SELF-PRIMING

STARTS WITHOUT PRIMING

RUNS WITHOUT VENTING

ROTO-PRIME



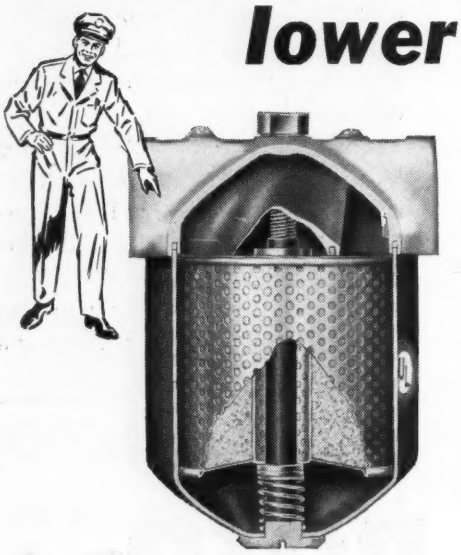
Interested in cutting pump equipment costs 30 to 50%? Here's your answer—the Gilbarco Roto-Prime Centrifugal, the versatile pump for more than one job. Because it handles liquid, air and vapor, Roto-Prime serves in both transferring and loading. No priming required because this pump automatically evacuates any air or vapor present in the line either at the start, finish or during the run. Simple construction cuts down servicing headaches and maintenance bills. And Roto-Prime's careful engineering assures quality performance and longer, more efficient pump life.

A complete centrifugal pump unit — base, electric motor, coupling, and mechanical seal. For the complete story on Gilbarco Roto-Prime Pumps, write today.

Gilbarco

Gilbert & Barker Mfg. Co. West Springfield, Mass., Toronto, Canada

FRAM FILTERS cut nuisance calls, lower costs . . .



Fram Fuel Oil Filters save you time, trouble and money . . . practically eliminate "nuisance" service calls! Fram protects pump valves and burner nozzles from damage and malfunction because of dirt, rust, scale, grit and water in the fuel. And Fram Filters build customer goodwill for you because oil burners operate more economically and dependably with Fram protection!

Write for full details TODAY!

Fram Fuel Oil Filters are available in capacities of 2000, 4000 and 6000 gallons of oil consumed per year. Write to: FRAM CORPORATION, Providence 16,R.I.

Specified by leading Oil Burner Manufacturers

FRAM FUEL OIL FILTERS

. . . . New Products

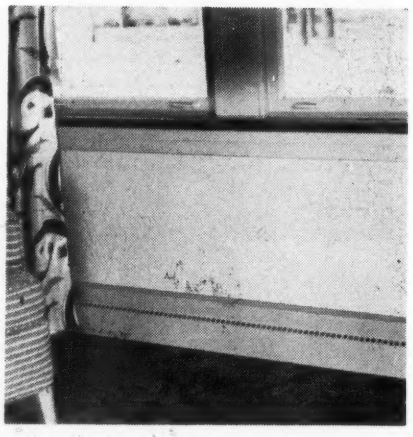
lighting tube and oil control valve as regulation parts. Available as accessories are an automatic thermostat, 5-gallon attached reservoir, fuel pump and an electrically-operated Superdraft to improve weak or faulty chimney drafts.

Made by: Perfection Stove Co., 7609 Platt Ave., Cleveland 4, O.

Circle D72 on card

Thermo-Base, new base-board warm air heating System

THERMO-BASE, a base-board warm air heating system, is available in three sizes; 3, 5 and 8 feet. The units are accurately rated for all static pressures and air temperatures and are suited for the small pipe distribution systems. Full length drapes do not interfere with their operation as all velocity



pressures are converted to static pressures in the units and the air is uniformly discharged over the entire length of the unit.

The units blend with any decorating schemes, since they may be painted as desired. They may be used in homes regardless of whether there is a basement or a concrete slab. Thermo-Base is also suited for cooling and entirely draftless distribution of either heated or cooled air is obtained.

Made by: Gerwin Industries, 214 Spring St., Michigan City, Ind.

Circle D73 on card

New Heller fastening Gun for cable and tube Installations

A NEW HAND-HELD, automatic fastening gun, developed by the Heller Stapler Co., is designed for the installation of cables and hollow tube lines.

This machine is operated with one hand, leaving the other hand free to guide the lines being installed. It has, however, the power of a big industrial stapler. Its force will drive bands around cables and tubes into hard or soft woods, plaster walls, flooring, joists, mortar joints and cinder or mineralite building blocks.

Use "CRESCENT PARTS" Service

SERVING THE ST. LOUIS TRADE AREA

Authorized Fuel Unit Service Station

"FACTORY REBUILT" Repair Exchange control service on all popular makes at regular manufacturers list prices and trade discounts.

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SEND US YOUR ORDERS OR INQUIRIES

CRESCENT PARTS AND EQUIPMENT CO., INC.

825-831 S. Boyle Avenue St. Louis, Missouri

The Heller fastening gun drives a special Heller extra-size band with leg lengths varying from 3/16 to ½ inch.

Made by: The Heller Co., 2153-E Superior Ave., Cleveland 14, O.

Circle D74 on card

OPW fueloil Nozzle operates on compensating Principle

OPW'S FUELOIL dispensing nozzle, No. 190, operates on a compensating principle. This nozzle allows a finger pull

opening and positive shockless closure under normal operating conditions in all kinds of weather.

The 1" nozzle size is constructed of hard, wear resistant bronze. Sizes 1¼", 1½" and 2" are made of lightweight, hi-tensile Opalumin.

Made by: OPW Corp., 2735 Colerain Ave., Cincinnati, O.

Circle D75 on card

Vaporite Humidifier designed for perimeter heating Systems

VAPORITE AUTOMATIC HUMIDIFIER, Model CF 500, for counterflow style furnaces, makes humidified warm air available in homes with perimeter heating systems.

Model CF 500 uses the bottom of the plenum chamber in the concrete floor as an evaporating surface instead of the pan. The temperature controlled drip feed keeps the surface sufficiently moist for quick transfer of moisture to the heated air. The drip feed is automatically accelerated, throttled or shut off as the furnace temperatures fluctuate; when the furnace is not in use, the plenum chamber is dry.

Made by: Automatic Humidifier Co., Cedar Falls, Ia.

Circle D76 on card

Oil-fired Trailer heater features simplified service

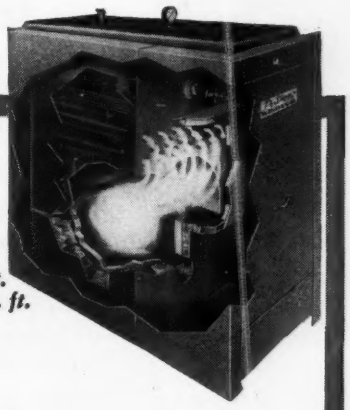
TRAILER HEATER IS AN OIL-FIRED UNIT with a Btu output of 27,000 specifically designed for trailerites. All working parts are visible and easily serviced. All that is required to remove the entire heat chamber assembly is to disconnect the oil line and fuel connection and take out two screws in the base. Similarly, control and tank assemblies are removed by loosening a screw in the control bracket and dis-

PROFIT-WISE heating contractors specify . . .

PORTMAR GAS OR OIL FIRED STEEL BOILERS

Meets every heating demand for steam or hot water

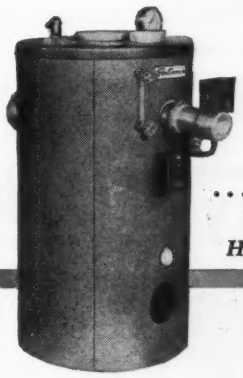
In-demand boilers that assure long range customer satisfaction, Portmar steel boilers operate at high heating efficiency—producing low cost heat and abundant clean hot water all year 'round. Priced "right" to meet a steadily growing market, contractors are discovering that Portmar boilers are *easier to install and amazingly trouble-free.*



WINDSOR STEEL BOILERS

horizontal tube series . . . with extended jackets

Steam: 320 to 3,000 sq. ft.
Hot Water: 510 to 4,800 sq. ft.



PORTMAR RESIDENTIAL STEEL BOILERS

vertical tube series . . . with flush or extended jackets

Steam: 320 to 1,100 sq. ft.
Hot Water: 510 to 1,760 sq. ft.

Larger boilers made to order

GUARANTEED PERFORMANCE ON EVERY JOB

- scientifically arranged heavy gauge steel, long life boiler tubes provides maximum heat transfer
- large furnace volume
- long gas travels permit complete absorbing of gases for high efficiency and economy
- attractively designed boiler jackets add beauty to basements
- large hot water tankless copper coil
- designed so that parts are easy to reach for proper cleaning
- tested with high hydrostatic pressure

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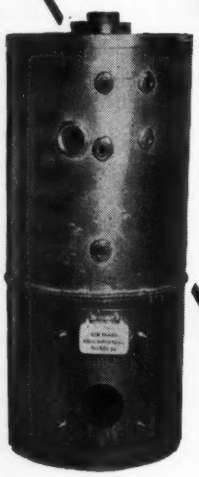
NEW YORKER
FIRE TUBE STEEL BOILERS

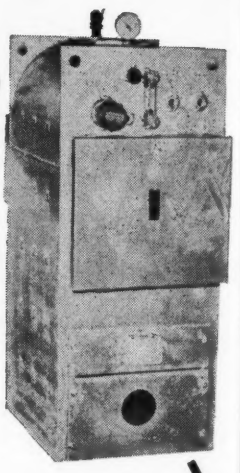


VERTICAL SERIES

Here's the ideal low-cost boiler for your heating requirements. Quiet, non-pulsating operation. Large instanfaneous coil provides abundant hot water. Specially engineered integral combustion chamber. Easy-to-clean New Yorker vertical boilers are available with ASME stamp.

HORIZONTAL SERIES

This New Yorker Steel Heating Unit provides highest combustion efficiency. Oversize tankless coils provide year-round hot water. Each fire tube has spiral turbulator baffle. Big door offers easy access for cleaning. Integral combustion chamber resists temperature up to 3200° F—large combustion space.



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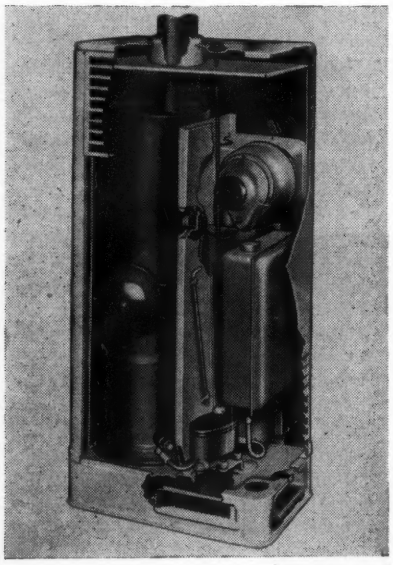
. . . . New Products



connecting the fuel line. Removal of three screws in the shroud and two screws in the plate behind the shroud will effect disassembly of the power-air unit.

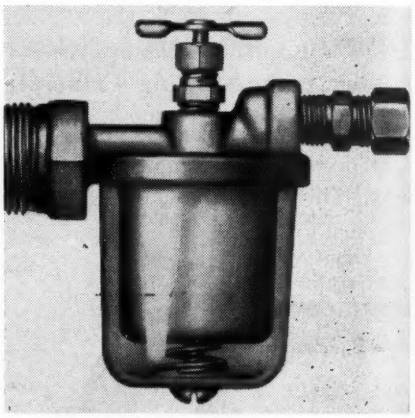
Made by: Duo-Therm Div., Motor Wheel Corp., Lansing, Mich.

Circle D77 on card

Sette fueloil Filter combined into one Unit

THE SETTE heating oil filter combines a shutoff valve, filter, ¾" tank fittings and ⅜" outlet tube fitting in one unit assembly. Its entry into the market introduces a specially developed ceramic filtering element and a new non-breakable transparent plastic bowl. The Sette unit is designed for use with average home heating or light industrial oilburner installations. It is said to remove all harmful dust, scale and water, eliminating need for frequent burner service.

The ceramic element, the manufacturer says, is cleaned easily. The removable transparent bowl is of a special plastic which the manufacturer claims is not affected by normal heat, cold or petroleum products and features a safety factor of non-breakability. A new design eliminates need for an external bail to hold the bowl in place.

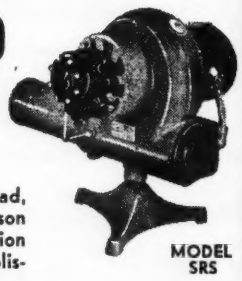


Integral with the filter body is a ¾" fitting permitting the unit to be in-

SILENT KORTH OIL HEAT

COMPETITIVELY PRICED

SAME QUALITY



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Pretreats Your Fueloil for only

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Oil Absorbant & Suspendant for steam boilers
BANSOIL
The "Oil Blotter"

PARKE-HILL CHEMICAL CORP.
57 South 6th Ave. **Mount Vernon, N. Y.**

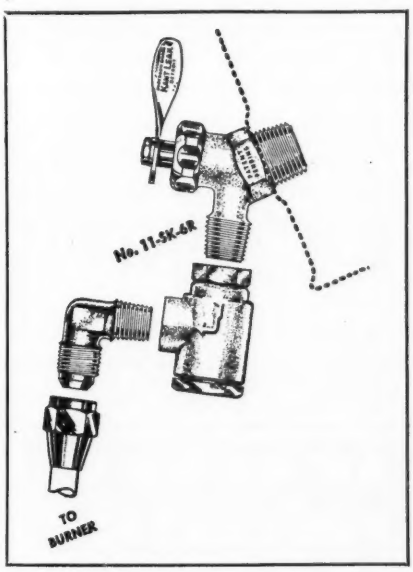
stalled directly in the fuel tank or drum. A shutoff cock is built into the intake passage, eliminating need for separate valve installation. The 1/4" I.P.T. threaded outlet is furnished complete with 3/8" tube fitting.

Made by: Marquart Mfg. Co., 1241 High St., Oakland 1, Calif.

Circle D78 on card

Anderson Brass introduces space Heater strainer Kit

KANTLEAK STRAINER KIT for one fuel-oil tank is a packaged strainer unit designed primarily for oilfired space heaters in small homes and house trailers.



The 3/4" male I.P.T. packed top valve is constructed to assemble directly to a 55 gallon drum. The strainer, with its easy and quick cleanout feature, will remove harmful foreign matter from the fueloil line. The kit is complete with flared fittings for 3/8" tubing line connection.

Made by: Anderson Brass Co., 5305 Twelfth St., Detroit 8, Mich.

Circle D79 on card

Oyltite-Stik, a new Seal that stops tank oil Leaks

OYLTITE stops leaks in oil pipes, tanks and containers or around leaky joints. It comes in stick form and can be applied while oil is running through pipes or is present in tanks. Because it is in stick form, it makes it easy to reach many hard-to-get-at areas.

Made by: Lake Chemical Co., 3050 West Carroll Ave., Chicago 12, Ill.

Circle D80 on card

Finger Strap designed to Secure insulation Materials

FINGER STRAP, a new metal strapping, permits all types of insulation materials to be applied quickly and permanently to pipes, ducts, tanks and flat walls.

The new strapping is 3/4" wide in thicknesses from .015 to .035. 1/4" wide tapered fingers are spaced at intervals of 5 1/2" to 12" as specified, and serve to secure the insulation. Finger Strap is applied around tanks, ducts or pipes with a Steelbinder Strapping Tool. It can also be nailed or screwed to a wall or other flat surface. Once fastened, the steel fingers are lifted outward to a 90° angle and the insulation impaled on them. A slit Finger Strap washer is then slipped on the finger tip protruding through the insulation, and the protruding tip is bent firmly back against the washer. The whole operation requires only a few seconds.

Made by: A. J. Gerrard & Co., 1950 Hawthorne Ave., Melrose Park, Ill.

Circle D85 on card

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Since We Stocked

SID HARVEY'S GLASS AIR FILTER PACKAGES

SID HARVEY'S AIR FILTER PACKAGE #136

EXACT REPLACEMENT For 8 out of 10 jobs.

16 Assorted Air Filters. 6 Most Popular Sizes.

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SID HARVEY'S GLASS AIR FILTERS

are smooth and easy to handle. WON'T SPLINTER YOUR FINGERS.

Package #136

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Let QUALITY Be Your Guide!

specify couplings by *Guardian*

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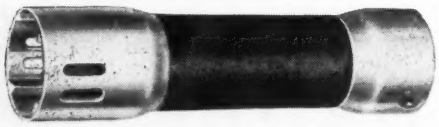

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Provides clearance for rapid assembly and snug fit, reducing wear. Extruded aluminum sleeve formed under closer tolerance obsoletes former production of steel sleeve with embossed splines.

*Patent applied for. There is only one "Silent Tension" splined sleeve coupling—Guardian makes it.

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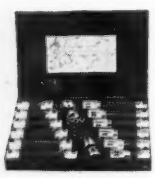
An exclusive Guardian process aligns end-fittings and flex-element. Spins them into union while in a dynamic state—running true.

3. NEW "TRUE-FLEX" RUBBER ELEMENT

Special synthetic reinforced. Properly engineered to correct O.D. and durometer for maximum service life.



HANDY SERVICEMEN'S KIT

Meets 97% of service needs. Get one—keep it filled for extra profits on coupling replacements.

Insist on Guardian Quality . . . It is True Economy!

Write for Complete Data on Guardian Flexible Couplings and Guardian Oil Heat Valves.

Guardian PRODUCTS CORP.
COUPLING DIVISION

Dept. F-102, 1231 East Second Street

Michigan City, Indiana

Letters

R. HOSKING FUEL CO.
Iron Mountain, Mich.

Editor:

We would like to know if No. 1 and No. 2 fueloil were priced at the same figure would there be any saving in using a No. 2 fueloil in a domestic burner installation using around 1200 gallons a year? Would the cleanliness of No. 1 offset the higher heat units of the No. 2?

RICHARD J. HOSKING

As you probably know the average No. 2 oil is about 33 API gravity and has 140,000 Btu per gallon; No. 1 oil, based on 38 gravity, has 137,000 Btu per gallon. Thus, it has about 2% less heat value and this in all probability would be fully made up by its greater cleanliness. In other words, you would have less burner service. If you can buy No. 1 at the price of No. 2, by all means do it.

* * *

AMERICAN CLIMATIC CONTROL, INC.
Philadelphia 38, Pa.

Editor:

I am enclosing a check to renew my subscription to FUELOIL & OIL HEAT.

This should make a total of about 26 years that I have been a subscriber. It should be some kind of a record and I expect to be subscribing for a good many years to come as your magazine always has been inspirational and interesting. In fact, I know of no way that you could improve upon it.

HAROLD THORPE

❖

Government on Fuels

(*Begins on page 16*)

the Senate Small Business Committee in 1947-48, headed by the late Senator Wherry, Nebraska, which "pressured" suppliers to take care of the previous year's buyers, pro rata.

So, he may have in mind that the FTC could use its hearings procedure to accomplish the same results as the Wherry Committee.

Hadlick pointed out that one purpose of the FTC, originally, was to be an "instrument of information and publicity" as distinguished from the "menace of legal process."

Readers' Problems

(*Begins on page 124*)

Q. I have a few consistent problems that you probably have met and solved.

I was called on a new job having a 800-foot hot water boiler with a built-in firebox and a rebuilt pressure burner. A 1.35 nozzle was installed as called for by the boiler manufacturer. Overfire and last-pass draft were .02" and .05" respectively. CO_2 was 7%, stack temperature 700°. After very carefully adjusting the barometric and primary air, I barely got any better results. Reducing blower air to get better CO_2, smoke developed. I installed an anti-pulse which cleared up a minimum pulsation, but could not help the efficiency. This is not the first time I have run into this problem; the fact is, it is rather common. Oftentimes burned draft tubes have been cut and new cones installed, changing air-oil relationship.

It's at this point where I am stumped. (1) Is there any scientific

AN OUNCE OF PREVENTION

is worth a POUND of CURE

This old adage was never more true than in the case of leaking connections. You know what damage they can cause . . . what they cost to repair.

Rectorseal #2 is the ounce of prevention you need to prevent such leaks. Thin in the can for quick, economical, easy application, Rectorseal #2 thickens in the joint to a plastic elasticity that maintains a perfect seal for the life of the connection. It has been proved by more than 15 years use by the oil industry. SEND FOR FREE SAMPLE. Prove to yourself that Rectorseal #2 is the finest sealing compound you ever used.

RECTORSEAL, Dept. O
2215 Commerce St., Houston 2, Texas

RECTORSEAL
NUMBER TWO

NEW SOOTMASTER FURNACE CLEANER

Eliminates Leaky Bags & Costly Blow-Outs

Eliminate the outside bag! Learn how economically SOOTMASTER Throw-Away Filters work on your present cleaner. Better yet, ask your jobber about the new SOOTMASTER FURNACE CLEANER, by the originators of the Throw-Away Filter for commercial cleaners.

CONVERSION UNITS FOR YOUR PRESENT CLEANER

Filter Unit—less motor, for G. E., Premier, Pullman or Harvey **$17.75**

Filter Units complete with new Turbine Fan (quieter) Motor for G. E. or Premier **$54.50**

SOOTMASTER Furnace Cleaner COMPLETE **$99.50**

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HAVERSTRAW, NEW YORK

YOU CAN USE THIS EXTRA HELP!

EVERYONE CAN'T SELL...

But Almost Anyone Can Learn to Sell...

For the benefit of those breaking into selling and for improvement of active salesmen, W. A. Matheson, a director of Eureka Williams Corp., wrote an exciting book on selling techniques that has helped thousands get ahead faster. He calls it THE SELLING MAN. He believes that almost anyone can sell if he'll take the trouble to learn. The techniques he suggests are practical because he has tested them himself. The $4 investment is a tiny price for so much helpful and profitable information to attain greater success.

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HEATING PUBLISHERS, Inc.

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New York 36, N. Y.

way of determining the relationship between the draft tube air-handling parts and the burner tip? (2) How far in from the air cone should the nozzle be set? (3) What should be the I. D. air cone measurement in relationship to the gph? (4) If an anti-pulse cup is used, how far back from the nozzle tip should the lip of the cup be?

Perhaps I am splitting hairs, but somehow I feel I'm on the right track. I know, of course, of the plain and highly-developed combustion heads which are available, but feel there must be a less expensive approach.

S. F. A., Bronx, N. Y.

A. In overall of course, the best results which you are seeking can come only of using the best equipment available. To obtain CO_2 readings in the realm of 12% to 13% without forming soot or chimney smoke, you must start with an excellent combustion chamber and an excellent oil-burner which has the best air-handling parts obtainable. That is literally true, and your best on-the-job efforts which involve mediocre equipment cannot offset the truth of it. Low stack temperature readings, in the realm of 400° to 550°, are simply the result of the proper transfer of heat from the flame and the products of combustion to the furnace or boiler.

In answer to your first question: There is a widely-used scientific way of determining the relationship between the air-handling parts and the burner nozzle characteristics. Use a CO_2 tester and a smoke tester. You may consider the relationship good, for example, when with a #3 smoke reading you obtain a reading of 9% to 11% CO_2; excellent results, according to certain service experts, are represented by a #2 smoke reading and CO_2 higher than 11½%.

The same principle answers your other three questions. The manufacturers of the air-handling equipment you have in mind should be able to give you instructions that will help you. But in the end the proof of the pudding comes in the heating. If you use truly excellent equipment, together with the best adjustments which can be made, you will arrive at maximum efficiency. You will obtain low smoke and stack temperature readings and high CO_2 readings.

You seem to be the type of service man who should concentrate on a few installations in an effort to reduce greatly their fuel consumption. The oil bills of many mediocre installations can be cut 25% to 50% by replacing their ordinary combustion chambers by the best combustion chambers it is possible to design and build, giving detailed attention to nozzles and air-handling parts, baffling effectively the combustion spaces or flue passages of the furnaces or boilers, and winding up with the type of combustion test readings mentioned above.

READERS *are invited to send in their oil heating problems to* FUELOIL & OIL HEAT, *2 West 45th St., New York 36, N. Y. All questions will be answered promptly by mail and those problems considered of general interest will be published in a later issue of FO&OH.*

the Mt Hawley "BUDGETEER"

THE HEATING ANSWER TO YOUR SPACE PROBLEM

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COMPARE THESE FEATURES:

- Meets FHA and underwriters Standards For Closet Installations
- Fits In Closet 22" x 44" And Still Permits Servicing of Burner
- Uses A Minimum Of Fuel Because Of High CO_2 and 450° Stack Temperature
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IDEAL FOR ANY FORM OF HOT WATER HEAT

No matter whether it's radiant panels in ceiling or floor, baseboard or convectors, the BUDGETEER brings the temperature up quickly when the controls ask for it — all due to ample combustion area and extra large heating surfaces.

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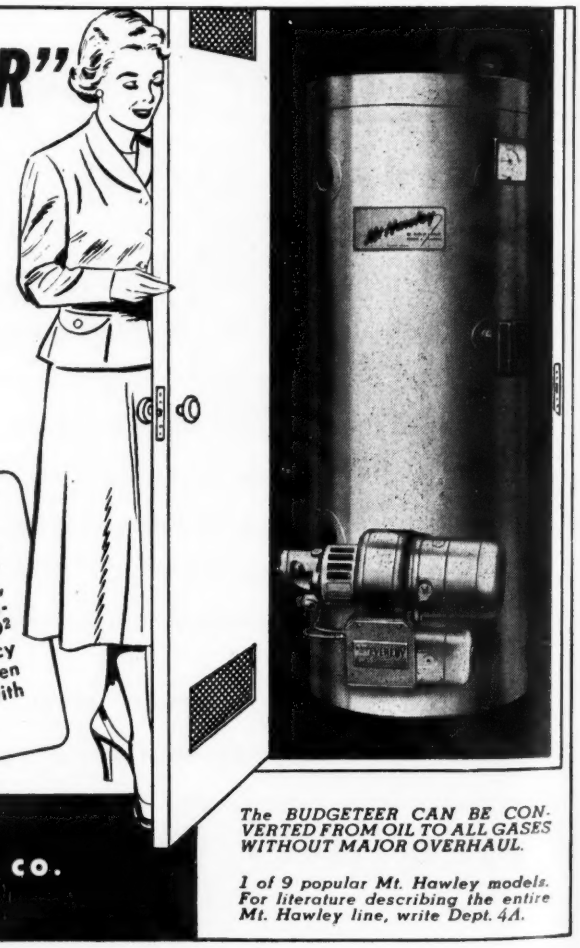
Fitted with Mt. Hawley's own aluminum oil burner, the BUDGETEER is noted for its smooth, easy start, freedom from vibration and rumble. Good CO^2 and 80% or higher efficiency factors are easy to get even with ranch type houses with low chimneys.



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Cold air Profits

(Begins on page 58)

as a future prospect for a year 'round airconditioning job. He is particularly happy about the popular acceptance for air cooling, following the hottest summer experienced in the Chicago area, and it's evident that he is not going to miss out on the profitable prospects he can pinpoint among the installations he has made.

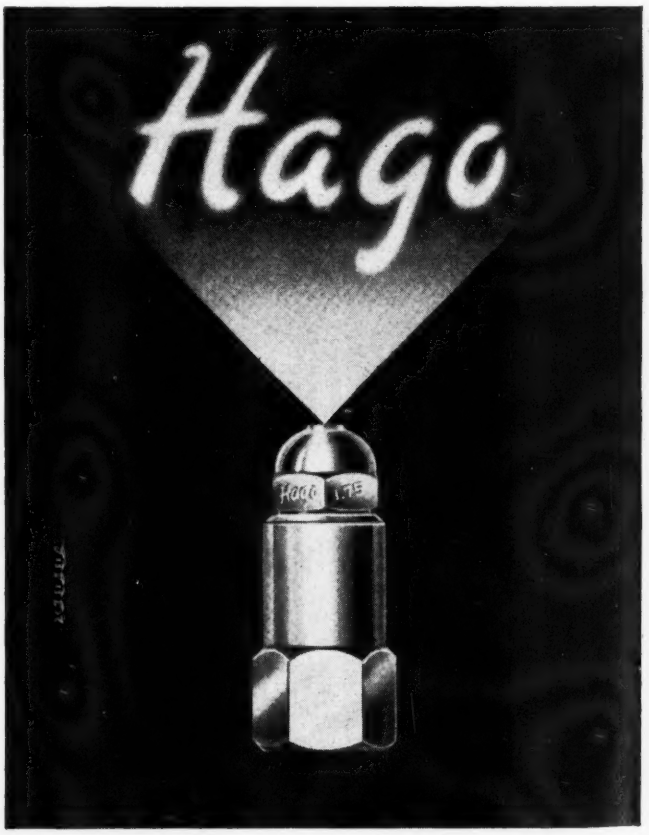
Summing up, it is obvious that a real opportunity beckons to the oilheating dealer who takes on the sale of summer air conditioning equipment. The most logical approach for all-room cooling presents itself either in new homes equipped with forced warm air heating or in existing homes that already have such systems. So, the first step suggested to the dealer who is interested in selling centrally-installed cooling is a survey of his marketing area to determine the potential sales he can expect. And, when this is being done, remember that the package units that are available for home use, also are offered in sizes that make them ideal for such commercial installations as stores, restaurants and offices.

Once the market has been investigated the next most important step, not forgetting how vital it is to select and arrange to handle equipment that is designed for the purpose, is the establishment of an entirely new department, or expansion of present facilities to sell, engineer, install and service cooling equipment. All four of these elements are equally important. While present sales forces probably can handle cooling sales as well as heating, the engineering, installing and servicing may present more complex problems.

If the dealer's present engineering staff is qualified to perform the same cooling engineering services as they do for oilheating, then half the battle is won. But, if the opposite is true, then it is imperative that new talent be acquired to fill the gap. Cooling engineering is quite similar to heating engineering in many respects, in that the data must be computed accurately and take into account the loads that will be imposed, construction or exposure factors that will influence the selection of the proper sized equipment and laying out a well-designed air distribution system. Or, if the installation is to be made in an already existing heating system, then the engineer must determine if ducts and registers are adequate and properly placed, or make the necessary changes to insure efficient operation.

Installation and service, too, parallels closely the same work that the dealer is performing for his oilheating customers. But, even if he decides that the same personnel is qualified, or can be trained to handle both jobs, it's likely that he will have to bring in supervisors or managers who can assume responsibility for cooling installation and service and be able to cope with any unusual problems that present themselves.

The transition from oilheating work into cooling, or combination heating and cooling, of course, is going to require considerably more time and effort than the time taken to read about it. But, increasing demand and acceptance of residential cooling, the equipment that can be used today for dis-



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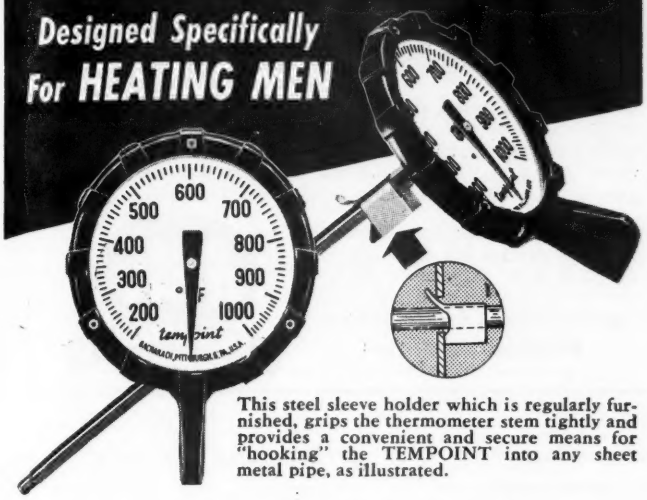
Designed Specifically For **HEATING MEN**



This steel sleeve holder which is regularly furnished, grips the thermometer stem tightly and provides a convenient and secure means for "hooking" the TEMPOINT into any sheet metal pipe, as illustrated.

Temperature indications of this precision bi-metal thermometer are as fast as those of the usual mercury thermometer, but this instrument is not subject to the many breakage hazards of ordinary thermometers. With reasonable care it will retain its guaranteed accuracy of within 1% of its range indefinitely. The three-inch diameter face, with large numerals and clear graduations together with the red V-shaped pointer make the TEMPOINT exceptionally easy to read, even in dimly lit locations.

This is one of a complete line of heating test instruments. Ask your jobber about the TEMPOINT or write for Leaflet 775.

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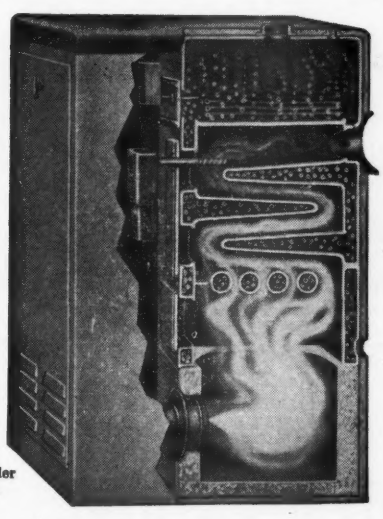

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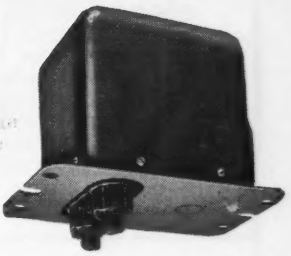

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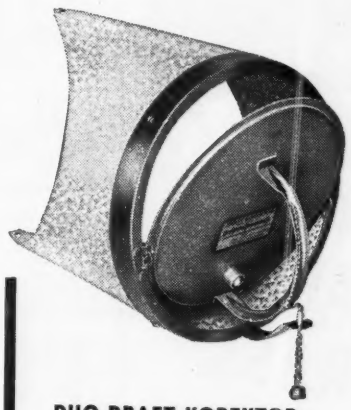

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tributing heated and cooled air through the same duct system in a home and the expectancy that even better equipment will be produced soon on a mass scale, open up promising vistas of increased sales and profits.

Surely, the oilheating dealer who contemplates this now, decides to take advantage of this opportunity and begins to build or realign his organization accordingly is going to be "in on the ground floor." By nature and background, the oilheating dealer, who so well knows the importance of honest, aggressive selling, accurate engineering, efficient installation and service, is admirably suited for residential cooling sales. He knows instinctively or has learned from bitter experience the grief and actual loss he can incur by slovenly execution of any of these elements and, as a result, can be expected to combine the merchandising ability and technical know-how that the operation demands.

Now is the time to start!

Oilheating Trends

(*Begins on page 12*)

weight. For the whole group the service net loss was 1.7% on service billing for the calendar year 1951. The average billing per dealer in the whole group was $51,000, and the average billing to each customer served by the dealers in the group was $15.57. Among the companies showing a service loss, four principal reasons were given: 1) Cheap service competition

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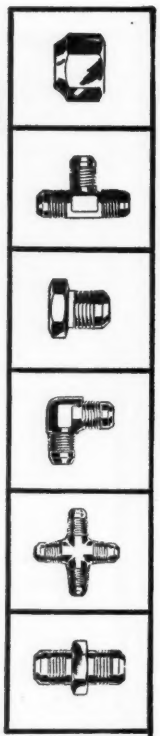
FITTING CONNECTION

of long standing select MADDEN BRASS



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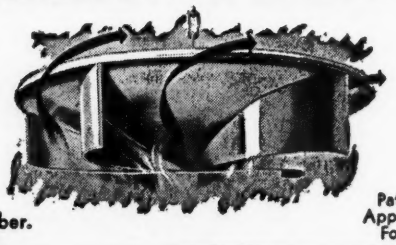

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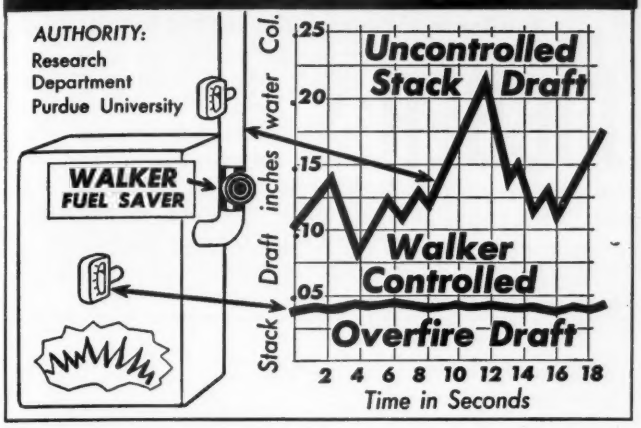

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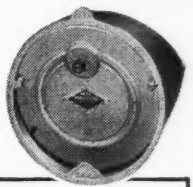

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automatically shuts off supply of oil into tank at correct level:

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Write for complete information and prices today.

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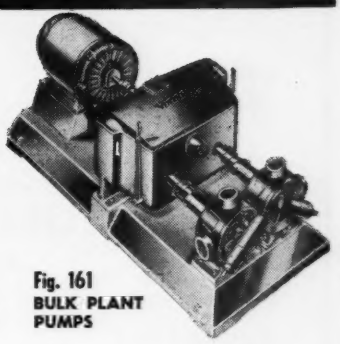

Fig. 161
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Get all you pay for when unloading tank cars and transport trucks.

Use Viking rotary pump equipment throughout. It's the proved, positive rotary pump with fast self-priming.

It removes all you pay for fast and with ease.

Only 2 moving "gear within a gear" parts assures you of long, dependable life with low power requirements.

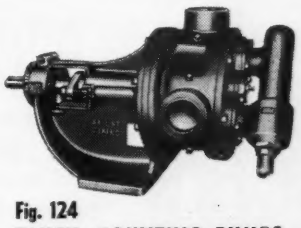

Fig. 124
TRUCK MOUNTING PUMPS

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. . . . Oilheating Trends

was the reason given by 25% of those companies; 2) Cheap natural gas competition was the reason given by 17%; 3) Service rates held down to insure oil business was the reason given by 55%; 4) The remaining 3% had thought that their rates were high enough to avoid losses.

Asked if they expected to make a profit on oilburner service in 1952 only 53% of the dealers voted yes. Then they were asked if they believe as a general policy that oilburner service should make a profit; 57% voted yes, and the remaining 43% said that service departments should just break even. Naturally no one voted to say that they should lose money.

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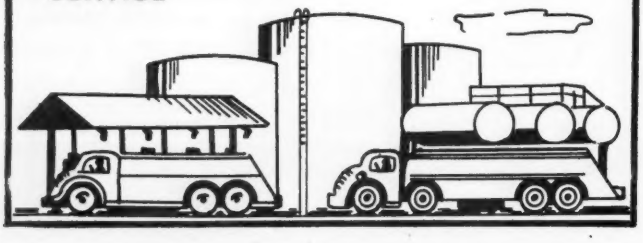

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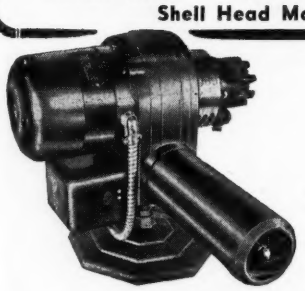
Shell Head Models Available



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Write for Territory open in your Locality
Models from ¾ gal. to 20 gal. per hr.
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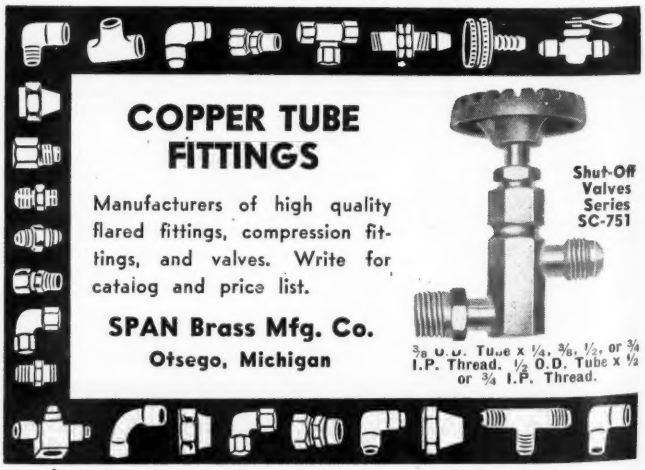

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THERMO-DRIP
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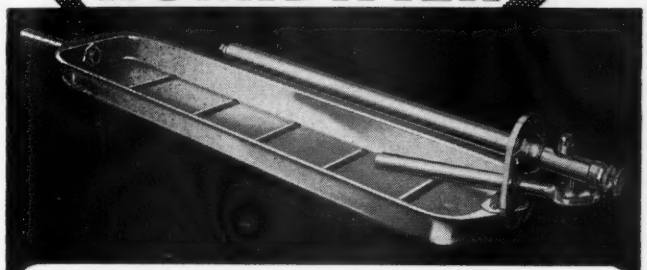

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OIL FIRED - FORCED AIR FURNACE
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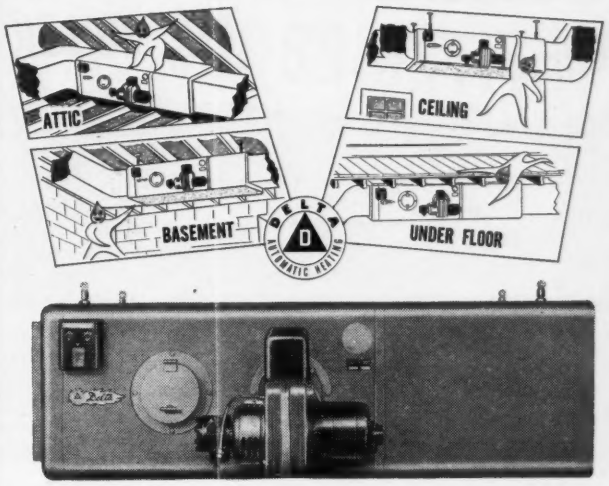

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Statement of Ownership

Statement of the ownership, management and circulation required by the Act of Congress of August 24, 1912, as amended by the Acts of March 3, 1933 and July 2, 1946 (Title 39, United States Code, Section 233) of FUELOIL & OIL HEAT, published monthly at Baltimore, Md., for October 1, 1952:

State of New York, County of New York—ss

Before me, a notary public in and for the state and county aforesaid, personally appeared Robert Gray, who, having been duly sworn deposes and says that he is the editor of FUELOIL & OIL HEAT and that the following is, to the best of his knowledge and belief, a true statement of the ownership and management of the aforesaid publication for the date shown, required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933 and July 2, 1946 (Title 39, United States Code, Section 233), printed on the reverse of this form to wit:

1. That the names and addresses of the publisher, editor, managing editor and advertising manager are:

Publisher—Heating Publishers, Inc., New York, N. Y.

Editor—Robert Gray, New York, N. Y.

Managing Editor—Bert Dunphy, New York, N. Y.

Advertising Manager—A. G. Winkler, New York, N. Y.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member must be given.)

Heating Publishers, Inc., 232 Madison Avenue, New York 16, N. Y.

Stockholders: Leod D. Becker, Milford, N. J.; A. E. Coburn, Yonkers, N. Y.; Robert Gray, Chalfont, Pa.; A. G. Winkler, Ft. Lauderdale, Fla.

3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and that this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities, than as so stated by him.

ROBERT GRAY, Editor

Sworn to and subscribed before me this 17th day of September, 1952.

FLORENCE L. FRIEDMAN

(My commission expires March 30, 1954.)

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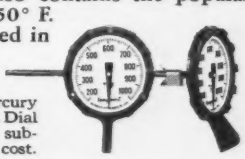

The chest is equipped with brackets for the mercury thermometer, and the TEMPOINT 200°-1000° F. Dial Thermometer shown at the right which may be substituted for the mercury thermometer at slight extra cost.

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. . . . Oilheating Trends

Atlantic, 1,176; Midwest, 1,238; Pacific Northwest, 1,340.

DEALER COMMENTS: Typical comments on various questions of the month are these . . . "Service is a necessary evil; the gas companies give it free and so will the oil industry if it wants to live; it's a sad comparison — the utility gets it back at higher rates but we cannot get more per gallon for oil to offset the loss". . ."Our sales are up 130% over last August; September looks good; manufacturers are slow in shipping". . ."We have turned down many oil accounts because they want free service; we are in business to eat". . ."I don't think any company can honestly show a profit on service if all costs are charged". . ."Skilled labor will be our worst problem this fall"..."When will the majors show any interest in their dealers other than mother-in-law treatment". . ."Exorbitant labor costs prevailing in Westchester County; more fringe and restrictive policies than straight time hourly rates; men don't have same will to work. There are nine independent retailers in fueloil and oilheating in our county, plus two majors, and each of the 11 have more than 2,000 accounts. These are mostly unionized. Then, there are scores of small men without union service; to survive we had to raise our oil prices higher than the majors"..."Steel for jackets is making units tight for us"..."Everyone is talking gas in our market because it is cheaper and we have lost some sales."

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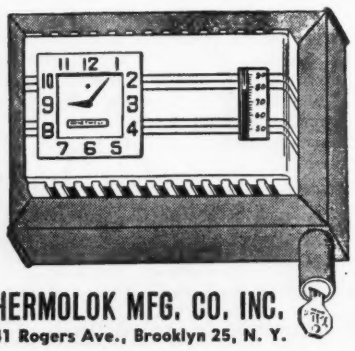

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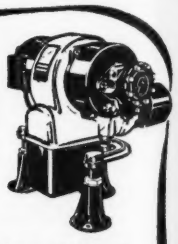

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